REPORT OF THE VIRGINIA COMMUNITY COLLEGE SYSTEM

TO

THE GOVERNOR

AND

THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 9

COMMONWEALTH OF VIRGINIA
RICHMOND
1984

VIRGINIA COMMUNITY COLLEGE SYSTEM
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MAILING ADDRESS: P.O. BOX 1558, RICHMOND, VIRGINIA 23212
Dr. Jeff Hockaday, Chancellor

December 7, 1983

The Honorable Charles S. Robb, Governor
Members of the General Assembly
State Capitol
Richmond, Virginia 23219

Dear Governor Robb and Members of the General Assembly:

The System is responding to the General Assembly action taken in House Joint Resolution No. 91. In this bill, the General Assembly stipulated that the System should comply with the resolution:

> *"Requesting the State Board for Community Colleges to study the feasibility of retraining unemployed persons in the Hampton Roads area."*
>
> Agreed to by the House of Delegates, February 8, 1983
> Agreed to by the Senate, February 23, 1983

The System conducted a feasibility study for the State Board for Community Colleges; and a copy of the study report (attached) provides the following: (1) a brief assessment of the business-industry climate and community college services in the Hampton Roads area, (2) unemployment trends and their impact on community college education and training, and (3) the feasibility of retraining the Hampton Roads unemployed. The presidents and staff at Thomas Nelson Community College and Tidewater Community College participated in the study.

The State Board is supportive of all initiatives taken by the Commonwealth to educate or train the unemployed. The

twenty-three community colleges have provided and will continue to offer training to assure that unemployed persons gain job-related skills. To increase substantially educational services to the unemployed, the Virginia community colleges would need additional resources.

I would be pleased to have your comments and questions concerning this report.

Sincerely,

Johnas F. Hockaday

JFH:ER/ph

Attachment

cc: Members, State Board for Community Colleges
The Honorable John T. Casteen, Secretary of Education
Dr. Gordon K. Davies, Director, State Council of Higher Education for Virginia

"Requesting the State Board for Community Colleges to study the feasibility of retraining unemployed persons in the Hampton Roads area."[1]

It is appropriate that the System be asked to study the feasibility of training unemployed and displaced persons in the Hampton Roads area or wherever located in the Commonwealth.

The State Board for Community Colleges finds the request to be in keeping with its open door admissions policy and with its goal of offering comprehensive educational programs and services that are relatively inexpensive and that are located in close proximity to citizens throughout the state. The citizenry in the Hampton Roads area have available to them through Thomas Nelson Community College and Tidewater Community College, training programs which prepare or retrain them for jobs in commerce, industry, and the services sectors. The strength of the programs and services provided by the community colleges derive not only from their access, but also from their variety: academic programs equivalent to the first two years of the baccalaureate degree; occupational technical programs of two-year and shorter duration; and developmental, continuing education, and community service programs are available statewide.

This report includes (1) a brief assessment of the business-industry climate and community college services in the Hampton Roads area, (2) employment trends and their impact on community college education and training, and (3) the feasibility of retraining the Hampton Roads unemployed.

ASSESSMENT OF THE BUSINESS-INDUSTRY CLIMATE AND COMMUNITY COLLEGE SERVICES IN THE HAMPTON ROADS AREA

Hampton Roads is fortunate to have a solid economic foundation composed of the federal government sector, a large tourist industry, a large service sector, and a private sector largely dominated by shipbuilding and port activity. On the positive side, federal spending insulates the Hampton Roads area from the national business cycle, while a negative

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[1]House Joint Resolution No. 91, a Virginia Bill agreed to by the House of Delegates, February 8, 1983 and agreed to by the Senate, February 23, 1983.

aspect is apparent in the fact that the Hampton Roads economy is dependent on federal expenditures. Historically, the rate of economic growth, which is determined from the private sector, has been slow due to the large military concentration. However, the rate of economic growth has recently accelerated and is projected to grow over the next ten to fifteen years. In 1981 a total of 446,800 persons were connected to the naval presence in the Hampton Roads area, with active duty personnel numbering 97,961, and a payroll of $2.8 billion. Ten percent of all area households are headed by a military retiree, and approximately $313 million in retired-military payroll came to the Hampton Roads area in 1981. For each dollar that left the area, $5.93 came into Hampton Roads. In addition, the fourteen percent military pay raise in October 1981 has had an economic multiplier effect and served as an insulator against the harsher recessionary downturns experienced in other parts of the country.

Employment opportunities in various industries offer a variety of potentials. Governmental activities continue to be one of the major employers of Hampton Roads residents, employing approximately 57,000 individuals in 1982. Personnel involved in service industries have exhibited a substantial increase in recent years, presently accounting for the largest occupational group in Hampton Roads. Following close behind, trade industries remain a dominant employer of individuals residing in the community colleges' service areas. Manufacturing concerns have shown a positive growth trend during the last six years, resulting from the establishment of new, small to medium sized companies or expansion of existing firms. Anticipated job openings in Hampton Roads are the greatest for clerical workers, professional and technical workers, managers and officials, service workers, and operatives. For the 1980's, the major employers will continue to be those involved in service industries, trade, manufacturing, and governmental activities.

House Joint Resolution No. 91 was passed in February, 1983, when Hampton Roads finally felt the impact of significant unemployment (7.2% on the Peninsula and 7.5% in Southside Hampton Roads) and high interest rates during 1982-83 (See Table 1). Often, the unique mixture of industry and business, including governmental activities, that comprise the Hampton Roads economy shield the local area from the quirks of the national scene. During 1981-1982, most segments of Hampton Roads' economy showed signs of slowing down. However, the early gains of 1982-1983 indicate positive growth, in many of these same areas, particularly retail sales. With improvement in the local economy, increases have been seen in real earning figures, retail sales, construction activities, and declining unemployment figures.

Corresponding evidence of a healthier economy is noted by the fact that unemployment in Newport News and Hampton was listed as 12,130 at the time the resolution was proposed and 22,130 in the cities of Norfolk, Virginia Beach, and Portsmouth. Employment data supplied by the Virginia Employment Commission for the second quarter of 1983 indicated those figures had decreased to 8,800 and 20,500 respectively. On both sides of Hampton Roads, the number of unemployed dropped significantly and, on the Peninsula, equalled less than half the national quarterly average for the first time in history. That trend has continued and further improvement is anticipated. Thus, a previously critical situation which precipitated the resolution appears to have dissipated somewhat. This improvement will allow for a more systematic approach to concentrating on long-term unemployment.

Thomas Nelson Community College offers direct services to local business, industry, and government primarily in the form of staff development services, and the college also works with local firms and government to train individuals for new jobs. The latter is accomplished primarily through apprenticeships, internships, and cooperative arrangements with these businesses and government agencies. For example, the Engineering Technologies division at Thomas Nelson Community College offers apprenticeship programs at NASA, Newport News Shipbuilding and Drydock Company, Dynamic Engineering, Phillip Morris, and Klate Holt with total enrollments well in excess of 200 students. The division also has a variety of cooperative programs with local firms. The Division typically enrolls over 50 students per quarter in these programs.

The Business Sciences Division enrolls over 125 students in cooperative programs with NASA, Newport News Shipbuilding and Drydock Company, local retailers, and government agencies. Programs are currently available in Management, Secretarial Science, Marketing, and Data Processing. Students in the Public Services Technologies and Social Science Division also have the opportunity to work in real life situations and to acquire on-the-job skill and knowledge through an extensive internship program. Students in Occupational Safety and Health, Human Services, Education, Early Childhood Development, Food Service Management, and Public Administration participate in these internship programs that help them prepare for jobs in these areas. Approximately 90 students per year are enrolled.

Tidewater Community College also offers various programs and services designed to train individuals in business and industry. Some of the larger programs are described below:

- Co-Op Program -- The Cooperative Education program is designed to provide students with actual, practical, and valuable work experience. The main

objective of the program is to bridge the gap between theory and practice by allowing the student to apply skills learned in the classroom to on-the-job situations. In addition, the experience enhances prospects for initial employment. In the fall, 1983 the college enrollments included 215 students in the co-op program.

- Contract Programs -- Services were provided by Tidewater Community College for approximately 1,274 contract program students in fall, 1983. Some of the larger training programs included 198 Shipyard workers, 109 Naval Air Rework Facility workers, 586 American Institute of Banking workers, and 113 students at Norfolk General Hospital.

- Stihl Chain Saw -- Tidewater Community College engaged in a partnership with Stihl Chain Saw to train potential workers to be employed as machinists. During 1982-83, the college trained 31 students at the company.

- Norfolk Skills Center -- Although the Norfolk Skills Center of Tidewater Community College is no longer in existence, the Center provided skills learning opportunities to undereducated, inner-city, and minority students. Many of the former students participated in the CETA program.

EMPLOYMENT TRENDS AND THEIR IMPACT ON COMMUNITY COLLEGE EDUCATION AND TRAINING

National Employment Trends

Assessing the impact of federal expenditures on employment patterns in the Hampton Roads area is a difficult task. One sector of the local economy which will likely experience a significant increase in such expenditures is the shipbuilding industry. Shipbuilding is a highly labor-intensive industry with a high concentration of craft workers (e.g., plumbers, pipefitters, electricians) and operatives (e.g., welders, flamecutters). Nevertheless, according to United States Bureau of Labor Statistics (USBLS) economist, Richard P. Oliver, the Defense Department is encouraging the use of automated techniques to improve productivity and reduce labor costs (Occupational Outlook Handbook, Summer 1983). For example, Stanford Research Institute recently completed a study for the Navy which concluded that many of the jobs could economically be converted to automated functions. Thus, increased defense spending could ultimately lead to a displacement of some production workers in the shipbuilding industry.

Increased automation will also produce changes in ship design. Computer-assisted design will likely become more prevalent, increasing the skill level required of drafters and designers. Again, the emphasis will likely be on making existing workers more productive rather than creating new positions.

Although the direct impact on employment from increased defense spending for shipbuilding is difficult to project, it is very likely to produce new jobs in related industries and the service sectors of the economy. In these areas, it is reasonable to assume that employment patterns will follow national trends. An examination of the USBLS projections (Occupational Outlook Handbook, 1982-83 Edition) shows that the greatest growth in employment (i.e., new jobs created) is expected in the general areas of professional and technical, service, and craft occupations. Many of the occupations which will experience the greatest growth require specialized training beyond the high school level (Table 2). In addition, a number of the emerging career fields with relatively low current employment levels but large increases anticipated (e.g., computer service technicians and various health technologies) require post-secondary training.

Local Employment Trends

National employment trends obviously will have a considerable impact on the Hampton Roads, but local companies also have unique requirements that may differ from national trends. This is supported by data from the Virginia 1982 Industrial and Occupational Employment Projections for the State and Six Metropolitan Areas. According to Tables 3A - 3D and 4, service workers (clerical, waitresses, food service workers) will have a large growth in employment opportunities as will health and skilled labor occupations.

The Virginia Peninsula Economic Development Council in October of 1981 sponsored a comprehensive evaluation of vocational education on the Peninsula. The study, conducted by MGT of America, Inc., included three phases: 1) a complete inventory of public and proprietary occupational training and career guidance programs available on the Peninsula, 2) interviews with local business leaders concerning their perceptions of the occupational training system and their current and projected employment needs for vocationally trained individuals, and 3) development of a Plan of Action for improving vocational education. Although the study focused on the Peninsula, many of the findings may also pertain to employment prospects on the southside of Hampton Roads.

Among the findings in the MGT survey was a compilation of types of positions which are difficult to fill. Most of the positions were in six broad categories:

- Business and Office Occupations
  - business data processing
  - word processing
  - bookkeeping
  - shipping and receiving
- Mechanics and Repairers
  - industrial equipment maintenance and repair
  - vehicle and mobile equipment repairs
- Construction
  - building maintenance
  - plumbing and pipe fitting
  - electrical power and transmission
- Precision Production
  - tool and die making
  - mechanical tool operation
  - welding
- Marketing & Distribution
  - retailing
  - sales
  - marketing
- Institutional Home Economics
  - institutional management and support services
  - food production, management and service

During the interview, employers were also asked to project their hiring needs over the next 3 - 5 years. Based on their responses, MGT developed a set of conservative projections for the Peninsula. These projections are summarized in Table 5.

Thus, an analysis of national employment trends and a survey of local employers indicate that a large number of the positions which will be generated in the Hampton Roads area will require vocational/technical training. The need for

skilled technicians should also be increased by local and state efforts to attract additional high technology firms to the Tidewater area. Newport News has been designated as the preferred site for the new National Electron Accelerator Laboratory and Shell Oil Company recently announced plans to establish a new high technology research and development center in Newport News also. Enterprises such as these should create substantial opportunities for engineering and science technicians.

Unemployment in the Tidewater Area

For individuals to take advantage of the employment opportunities developing in the Hampton Roads area, they must have the requisite skills to move into these new career fields. Although no detailed data are available on the actual skill levels of unemployed residents of the Tidewater area, a closer examination of the demographic characteristics of the unemployed together with information on the types of jobs most often eliminated through increased automation should provide at least an indication of their skill levels.

Tables 6 and 7 show that unemployment rates in the Hampton Roads area (as in other regions of the nation) are higher for women and minority group members. Traditionally, these groups have had less access to technical training and, hence, technical careers. They are more likely to be employed in positions requiring limited skills which are subject to both economic and technological displacement.

Another factor to be considered in the employment patterns for the Tidewater area is the large military population. Military spouses may tend to increase the temporary unemployment numbers as they leave their former jobs, move into the area and seek new jobs. Even more important, though, for long-term employment trends may be the influence of military retirees entering the civilian labor force. Their job experience in the military may not always be relevant to the jobs available in the labor market.

Changing Labor Market Conditions

Table 8 shows the types of positions which nationally are projected to experience very slow growth or possible declines over the next decade. These positions appear to be primarily of two types, those in highly specialized fields requiring significant education or those requiring limited education or technical skill. With the Tidewater area's emphasis on attracting high technology firms, it is likely that new advances will be readily available and accepted. This could lead to increased job displacements among workers in labor intensive fields requiring limited technical skills.

Implications for Education and Training

In a rapidly changing job market, it is important for the education and business communities to work closely together. If educators are informed of anticipated changes in technology, they will be in a better position to respond. The major recommendation of the MGT report to the Virginia Peninsula Economic Development Council was the establishment of "a broad-based Peninsula/Business Education Committee with representatives from each of the public education institutions and from the private businesses, The Virginia Peninsula Economic Development Council, the Peninsula Chamber of Commerce, labor, the religious community, and the civic club community." The committee would facilitate communication among educational institutions and the business community and help coordinate planning for new educational programs. The recommendation led to establishment in fall 1982 of the Virginia Peninsula Training Council of which Thomas Nelson Community College is an active member. Support for this committee and development of a similar mechanism on the Southside would provide an excellent vehicle for addressing employment needs in the Hampton Roads area. These efforts could also facilitate implementation of the highest priority recommendation of The Report of the Governor's Task Force on Science and Technology in Virginia concerning vocational training and community colleges: "Establish a comprehensive training policy in recognition that training and retaining of the work force is a long-term educational effort; assign priorities and delegate responsibilities to appropriate agencies."

Another major recommendation from that report was that "the public school divisions, Vo-Tech Center and Community College should join with the Business/Education Committee to develop a single Peninsula-wide career assessment information and counseling program open to all students. Existing services and resources should be shared." The report concluded that "Thomas Nelson Community College offers its students a very effective career counseling program." Similar career counseling programs are in place at Tidewater Community College. By building on the success of their career counseling programs and making them more accessible to the general public, the community colleges could address two persistent causes of unemployment by making job seekers aware of areas where employment opportunities are greatest and by developing their job seeking skills. Such programs would be especially beneficial to those entering the job market for the first time and to those whose jobs have been displaced and who must therefore consider career changes.

A third area in which the community colleges can address the problem of chronic unemployment is in the development of basic skills. "This fact was reinforced when Peninsula employers in (the MGT) survey ranked basic skills (reading, writing, and arithmetic) as the highest learned skill they wanted in their employees" (Phase III Report, page 5). Again, the importance of basic skills was also strongly emphasized in the Report of the Governor's Task Force on Science and Technology, and specifically recommended as a goal of vocational training. The abilities to think abstractly, to solve problems, and to communicate effectively combined with a sound background in science should serve students well regardless of the career paths they choose. With such skills they will be in a position to adapt to and profit from the inevitable technological changes rather than being intimidated and displaced by them.

The community colleges can play an important role in providing large numbers of the area's citizens with these fundamental competencies required in our technological society. With their open admissions policies and strong counseling programs, they could prove especially valuable in providing access to technical training and educational opportunity for minority groups and the culturally disadvantaged who are most susceptible to economic displacements in the labor market.

THE FEASIBILITY OF RETRAINING THE HAMPTON ROADS UNEMPLOYED

The two major groups of unemployed people in the Hampton Roads area can be defined as (1) the undereducated and unskilled and (2) the temporarily unemployed. The community colleges can assist the latter with job placement and career counseling. However, the undereducated, unskilled workers must master basic skills before specific occupational skills. The greatest need of the unemployed in the Hampton Roads area is to be made employable. Specific training and career counseling for dislocated workers can be of little benefit unless the unemployed bring basic educational skills up to a minimum standard and are prepared for employment responsibilities and expectations.

Since the community colleges are committed to the continued enhancement of their role in responding to the needs of business and industry, it is appropriate that they be the focus for retraining unemployed persons to compete for jobs created by federal expenditure. The retraining effort should consist of occupational-technical programs which train students for careers rather than entry-level jobs and should also provide basic verbal and computational competencies as well as a sense of their place in the worlds of business and industry.

The need for improved basic skills as they relate directly to career preparation has been the subject of numerous recent national and state reports. A recommendation contained within The Report of the Governor's Task Force on Science and Technology in Virginia states the situation most appropriately when it called upon the community college to "...provide fundamental competencies to students in vocational programs. The minimum preparation should include basic verbal and computational skills which promote job mobility by training for careers rather than merely the first job." Increasingly, executives in business and industry cry out for applicants who can write, read, and perform competently the most fundamental of computations. The development, implementation, and evaluation of a program designed to aid students in acquiring basic verbal and computational skills, in making the connections between these skills and the students' work worlds, and in retraining those skills as essential ingredients to career preparation and developments is the best service which the community colleges can provide.

According to Mr. John Whaley of the Southeastern Virginia Planning District Commission, the community colleges can expand their services to accommodate local economic growth in the following ways:

- Career Counseling -- There is no possibility of overemphasizing career counseling. It has been noted that the average worker may change careers five to seven times during his/her life.

- International Trade -- Colleges can offer classes and seminars to aid the trade community in the Hampton Roads area.

- Dislocated Workers -- Colleges can assist in retraining dislocated workers and work cooperatively with public agencies to enhance their employment opportunities.

- Reevaluate Business Programs -- Greater emphasis should be placed on manufacturing processes, effective marketing, computer process, and good management skills.

- Special Education Groups -- The educational process of retraining should be specialized to meet the needs of different groups of people and their lifestyles.

- Need for Environmental Technicians -- Industrial expansion will create a need for pollution control and disposal of hazardous wastes.

That being said, attention must be directed toward the resources necessary to allow the community colleges to target a program specifically to the unemployed persons in the area. Although in the past skill and/or aptitude testing was done by the Comprehensive Employment Training Act Programs, at the present time skill levels are not routinely identified in the records of unemployed at the Virginia Employment Commission. A first step would be to identify, with the cooperation of the Virginia Employment Commission, individual unemployed persons. This could be done through the utilization of one of the major components of the Virginia Employment Commission's "dislocated worker program" which is designed to identify dislocated workers and assess their aptitudes for training/retraining through the utilization of the General Aptitude Test Battery (GATB), interest inventories and interest checklists. It is purported that the GATB, though the validity generalization, provides aptitude ranking for 98% of the occupational classifications.

A second step could involve the administration of placement tests in the areas of reading, English, and mathematics. The community colleges could provide that testing as well as counseling in the areas of employment responsibilities and employer expectations. In addition to the basics, the unemployed must learn employment motivation and the philosophy Community college personnel could also be employed in job placement activities and, with appropriate staffing and funding, could place unemployed persons in occupational settings and monitor their progress and success. Counselors could help to identify career areas of interest and guide the unemployed on a career path of long-term employment. That function could also, of course, be performed by the Virginia Employment Commission.

Community colleges, with additional funds from the agencies involved with the Job Training Partnership Act, could provide a variety of basic educational and specific employment skills to a larger number of unemployed persons. With the aid of the Dictionary of Occupational Titles and their accompanying skill descriptions, skill levels required for available jobs would have to be identified. Given the magnitude of factors involved in retraining efforts, it will be necessary to develop a shared college and agency system to ascertain the skills of the unemployed. Encouragement from the Governor's Office to all appropriate agencies would be helpful in that endeavor.

The participation of community colleges in efforts to train and retrain unemployed workers represents a natural and proper role. A cooperative effort between the community colleges and public agencies could provide a wealth of services to the unemployed in Hampton Roads. To actually do so, however, will require resource allocations far beyond current funding levels. There is no doubt that the necessary talent, energy and expertise exist within the community colleges to provide the type of training suggested by House Joint Resolution No. 91, but implementation will require the appropriation of additional resources.

ER/ph

EMPLOYMENT DATA
TABLES

Table 1

Employment Data for Virginia Peninsula
January - August, 1983

	Total Workforce	# Employed	# Unemployed	Rate
Peninsula				
January	169,994	157,262	12,732	7.5
February	170,886	158,571	12,315	7.2
March	171,059	160,730	10,329	6.0
April	175,368	166,484	8,884	5.1
May	178,461	169,636	8,825	4.9
June	183,177	174,580	8,597	4.7
July	183,619	175,738	7,881	4.3
August	183,240	175,422	7,818	4.3
Southside				
January	336,195	309,855	26,340	7.8
February	340,093	314,487	25,606	7.5
March	341,556	318,812	22,743	6.7
April	346,158	325,066	21,092	6.1
May	349,704	330,145	19,559	5.6
June	357,802	337,705	20,097	5.6
July	357,903	338,992	18,911	5.3
August	357,407	338,512	18,895	5.3

Source: Virginia Employment Commission

Table 2

Occupations Employing More Than 100,000 Workers
With Greatest Projected Increases in Employment

	# of Current Employees	Projected Increase in Employment
Engineers	1,200,000	27 - 37
Systems Analysts	205,000	68 - 80
Lawyers	425,000	25 - 39
Computer Service Technicians	83,000	93 - 112
Registered Nurses	1,105,000	40 - 47
Licensed Practical Nurses	550,000	42
X-Ray Technicians	106,000	36 - 43
Drafters	322,000	28 - 39
Engineer & Science Technicians	885,000	24 - 33
Programmers	228,000	49 - 60
Auto sales workers	157,000	26 - 36
Cashiers	1,600,000	28 - 36
Real Estate Agents & Brokers	580,000	34 - 46
Secretaries	2,500,000	28 - 37
Correction Officers	103,000	47 - 49
Guards	650,000	23 - 34
Food counter workers	426,000	48
Waiters assistants and kitchen helpers	1,120,000	28 - 35
Dental Assistants	140,000	38 - 42
Automobile Mechanics	845,000	24 - 33
Bricklayers	154,000	39 - 50
Cement masons	113,000	37 - 47
Production Painters	108,000	22 - 34
Welders & flame cutters	573,000	22 - 37

Source: Occupational Outlook Quarterly, Spring 1982

Table 3A

NORFOLK - PORTSMOUTH SMSA*

Specific Occupations With the Largest Numbers
of Total Job Openings
1976 - 1982

OCCUPATION	TOTAL OPENINGS	DUE TO GROWTH	DUE TO SEPARATION
Secretaries	2,760	1,140	1,620
Sales Clerks	2,700	720	1,980
General Clerks, Office	2,280	780	1,500
Waiters or Waitresses	2,040	1,140	900
Elementary School Teachers	1,860	720	1,140
Food Prep & Serv Wkrs, Fast Fd Rest	1,740	900	840
Cashiers	1,680	720	960
Nurses Aides/Orderlies	1,680	840	840
Typists	1,380	480	900
Helper, Trades	1,380	900	480
Nurses, Professional	1,260	600	660
Secondary School Teachers	1,140	540	600
Truck Drivers	1,140	600	540
Bookkeepers, Hand	1,080	480	600
Carpenters	1,080	600	480
Assemblers, Hand	1,080	720	360
Managers, Store	900	240	660
Guards & Doorkeepers	900	300	600
Supervisors, Nonworking	840	420	420
Licensed Practical Nurses	720	360	360
Automotive Mechanics	720	420	300

* Norfolk - Portsmouth SMSA (Includes Norfolk, Portsmouth, Chesapeake, Suffolk, Virginia Beach, and Currituck County).

Source: Virginia Employment Commission. Virginia 1982 Industrial and Occupational Employment Projections for the State and Six Metropolitan Areas.

Table 3B

NORFOLK-PORTSMOUTH SMSA

Employment and Total Job Needs By Major Occupational Group

1976 - 1982

	Nonagricultural Wage & Salary Employment			Total Job Needs 1976 - 1982		
	1976	Projected 1982	Percent Change	Total Openings	Growth	Replacements
Total, All Occupations	244,950	283,670	15.8	86,400	38,700	47,700
Professional, Technical & Kindred	43,460	49,950	14.9	14,220	6,480	7,740
Managers & Officials	21,680	25,090	15.7	8,520	3,420	5,100
Sales Workers	15,740	17,610	11.9	5,460	1,860	3,600
Clerical Workers	52,490	59,430	13.2	17,700	6,960	10,740
Crafts & Kindred Workers	28,760	33,920	17.9	9,480	5,160	4,320
Operatives	27,220	31,110	14.3	7,680	3,900	3,780
Service Workers	37,800	45,910	21.5	17,100	8,100	9,000
Laborers, Except Farm	17,800	20,650	16.0	6,180	2,820	3,360

Source: Virginia Employment Commission

Table 3C

NEWPORT NEWS SMSA

Specific Occupations With the Largest Numbers
of Total Job Openings
1976 - 1982

OCCUPATION	TOTAL OPENINGS	DUE TO GROWTH	DUE TO SEPARATION
Sales Clerks	1,740	780	960
Elementary School Teachers	1,380	600	780
Secretaries	1,320	540	780
Waiters or Waitresses	1,260	660	600
General Clerks, Office	1,080	420	660
Cashiers	1,020	540	480
Welders & Flamecutters	1,020	600	420
Secondary School Teachers	900	480	420
Carpenters	840	420	420
Food Prep & Serv Wkrs, Fast Fd Rest	840	480	360
Helper, Trades	840	480	360
Nurses Aides/Orderlies	720	360	360
Typists	660	240	420
Supervisors, Nonworking	660	360	300
Assemblers, Hand	660	360	300
Nurses, Professional	600	300	300
Managers, Store	600	300	300
Bookkeepers, Hand	480	240	240
Truck Drivers	480	300	180
Guards & Doorkeepers	480	120	360

Table 3D

NEWPORT NEWS SMSA

Employment and Total Job Needs By Major Occupational Group

1976 - 1982

	Nonagricultural Wage & Salary Employment			Total Job Needs 1976 - 1982		
	1976	Projected 1982	Percent Change	Total Openings	Growth	Replacements
Total, All Occupations	131,850	155,310	17.8	49,140	23,460	25,680
Professional, Technical & Kindred	22,650	26,350	16.3	7,860	3,720	4,140
Managers & Officials	10,170	12,010	18.1	4,320	1,860	2,460
Sales Workers	6,620	7,970	20.4	3,000	1,380	1,620
Clerical Workers	23,970	27,820	16.1	8,760	3,840	4,920
Crafts & Kindred Workers	19,920	23,280	16.9	6,420	3,360	3,060
Operatives	18,430	21,490	16.6	5,580	3,060	2,520
Service Workers	21,130	25,690	21.6	9,780	4,560	5,220
Laborers, Except Farm	8,970	10,710	19.4	3,480	1,740	1,740

Table 4

SOUTHEASTERN VIRGINIA'S TOP TEN EMPLOYERS

1. NORSHIPCO

   4,000 employees and an annual payroll of $75 million. The company repairs almost any kind of ship, from liquified natural-gas carriers to small navy craft.

2. Medical Center Hospitals, Incorporated

   3,596 employees and a yearly payroll of $51.73 million. Medical Center Hospitals operates Norfolk General and Leigh Memorial hospitals in Norfolk, which have a total of 900 beds.

3. C & P Telephone Company of Virginia

   2,890 employees and a payroll of $62.43 million a year. The Chesapeake and Potomac Telephone Company of Virginia serves the telephone needs of the vast majority of Hampton Roads residents.

4. Virginia Electric and Power Company

   2,707 employees in the eastern division, which includes the Peninsula and the Surry power plants. The payroll for the total Hampton Roads area is $26.4 million. Vepco is the sole utility furnishing electricity to the area.

5. General Electric Company

   2,300 employees and an estimated payroll of $46.9 million yearly. Suffolk is the base for the company's Television Business Division where GE designs and manufactures its television and video products.

6. DePaul Hospital

   1,611 employees and an annual payroll of $23.125 million. DePaul is a 402 bed Catholic-operated hospital in Norfolk.

7. Landmark Communications, Incorporated

   1,462 employees and an annual payroll of $24.88 million. Landmark owns the only two daily newspapers in South Hampton Roads, The Virginian-Pilot and the Ledger-Star; radio stations WTAR (AM) and WLTY (FM); and the company's cable operations.

8. Norfolk Southern Corporation

   1,395 employees with a payroll of $28.48 million. Norfolk and Western Railway merged June 1, 1982 with the Southern Railway Company, making it the nation's second largest transportation company. It is the major carrier of coal, grain, general cargo and auto parts to South Hampton Roads.

9. Virginia Beach General Hospital

   A 263-bed hospital, Virginia Beach General employs 1,100 full- and part-time workers, with an annual payroll of $15.4 million.

10. Ford Motor Company

    1,034 employees at its Norfolk assembly plant, including 168 salaried and 866 hourly workers and an annual payroll of about $31.2 million. Ford assembles pickup trucks at the Norfolk plant.

Table 5

Number of Sample Employers Reporting Hiring Difficulties
And Projected Labor Force Requirement By Job Categories

	Percent of Employers Reporting Hiring Difficulties	Average Number of Current Job Job Openings	Projected Number Of Current Positions To Be Filled	Estimated Average Number Of Positions Open In 3-5 Years	Projected Positions Open Next 3-5 Years
Business & Office	11%	0.7	23 - 45	52.1	1594 - 3200
Mechanics & Repairers	11%	0.8	25 - 50	9.5	292 - 586
Construction	9%	2.0	43 - 95	13.7	296 - 650
Precision Production	7%	2.4	39 - 93	55.5	911 - 2168
Marketing & Distribution	6%	7.1	92 - 237	121.8	1586 - 4080
Institutional Home Economics	4%	1.2	10 - 28	25.7	205 - 573

SOURCE: Phase III Final Report: Survey of Virginia Peninsula Business and Industrial Leaders' Perceptions of Vocational-Technical Training, MGT of America, Inc.

Table 6

CIVILIAN LABOR FORCE EMPLOYMENT AND UNEMPLOYMENT
IN THE HAMPTON ROADS AREA*

	Total Civilian Labor Force*			Total Unemployed Civilian Labor Force*		
	Male	Female	Total	Male	Female	Total
Chesapeake	28923	21428	50351	1462 (5.1%)	1499 (7.0%)	2961 (5.9%)
Norfolk	49743	43463	93206	3217 (6.5%)	3974 (9.1%)	7191 (7.7%)
Portsmouth	23854	19464	43318	1564 (6.6%)	1754 (9.0%)	3315 (7.7%)
Suffolk	11862	8967	20829	562 (4.7%)	828 (9.2%)	1390 (6.7%)
Virginia Beach	62200	51603	111803	2605 (4.3%)	3304 (6.4%)	5909 (5.3%)
Isle of Wight	5899	3924	9823	161 (2.7%)	191 (4.9%)	353 (3.6%)

	Male	Female	Total	Male	Female	Total
Gloucester County	5349	3604	8953	201 (3.8%)	206 (5.7%)	407 (4.5%)
James City County	6145	4732	10877	319 (5.2%)	288 (6.1%)	607 (5.6%)
York County	7981	6841	14822	325 (4.1%)	444 (6.5%)	769 (5.2%)
Hampton	28032	24093	52125	1576 (5.6%)	2186 (9.1%)	3762 (7.2%)
Newport News	35091	28278	63369	1829 (5.2%)	2559 (9.0%)	4388 (6.9%)
Poquoson	2369	1570	3939	82 (3.5%)	94 (6.0%)	176 (4.5%)
Williamsburg	2282	2294	4576	88 (3.8%)	84 (3.7%)	172 (3.8%)

*Source: Tayloe Murphy Institute (Based on 1980 Census Data)

Table 7

TOTAL UNEMPLOYMENT IN LABOR FORCE
IN THE HAMPTON ROADS AREA

	White	Black	Other
Chesapeake	1765 (4.5%)	1165 (8.9%)	12 (3.9%)
Norfolk	3058 (3.3%)	3974 (10.0%)	107 (2.7%)
Portsmouth	1070 (4.0%)	2227 (12.0%)	12 (2.5%)
Suffolk	303 (2.6%)	1083 (11.9%)	4 (8.2%)
Virginia Beach	4847 (4.0%)	892 (6.7%)	131 (4.1%)
Isle of Wight County	151 (2.4%)	194 (5.3%)	--

	White	Black	Other
Gloucester County	258 (3.3%)	149 (11.4%)	--
James City County	350 (4.4%)	252 (8.3%)	5 (4.6%)
York County	544 (3.7%)	218 (6.8%)	--
Hampton	1889 (4.7%)	1760 (9.2%)	65 (10.8%)
Newport News	2169 (4.2%)	2085 (10.4%)	73 (5.9%)
Poquoson	176 (4.2%)	--	--
Williamsburg	129 (3.2%)	36 (7.3%)	--

1982 Average Annual Unemployment

Newport News-Hampton SMSA: 6.6
Norfolk-Portsmouth SMSA: 7.2
State of Virginia: 7.7
United States: 9.7

Source: Tayloe Murphy Institute (Includes military; based on 1980 Census Data)

Table 8

Occupations Projected To Experience Limited Growth
During The 1980's

Occupation	Estimated Employment 1980	Range of Likely % Change in Employment 1980-90
Administrative & Support Occupations		
Credit Managers	55,000	0
Airline Reservation and Ticket Agents	86,000	0 to 7
Bookkeepers and Accounting Clerks	1,700,000	15 to 24
Mail Carriers	250,000	-18
Postal Clerks	265,000	-29
Stenographers	280,000	-2 to -8
Telephone Operators	340,000	4 to 15
Health & Regulatory Inspectors (gov't.)	112,000	12 to 14
Personnel & Labor Relations Specialists	178,000	15 to 22
School Administrators	150,000	-1
Natural Science Related Occupations		
Mathematicians	40,000	11 to 14
Astronomers	3,000	5
Meteorologists	4,000	8
Oceanographers	2,800	17
Physicists	37,000	9 to 14
Food Technologists	15,000	14
Foresters	30,000	9 to 14
Agricultural and Biological Scientists	125,000	17 to 20
Soil Conservationists	5,000	3
Social Science Related Occupations		
Historians	20,000	-9
Political Scientists	15,000	14
Sociologists	21,000	6 to 8
Recreation Workers	135,000	17 to 23
Education Related Occupations		
College and University Faculty	691,000	-9
Kindergarten and Elementary Teachers	1,600,000	18 to 19
Librarians	135,000	3 to 5
School Counselors	53,000	0
Secondary School Teachers	1,237,000	-14
Health Related Occupations		
Pharmacists	141,000	10 to 20
Emergency Medical Technicians	120,000	17

Table 8 (cont.)

Occupations Projected To Experience Limited Growth
During The 1980's

Occupation	Estimated Employment 1980	Range of Likely % Change in Employment 1980-90
Writers, Artists & Entertainers		
Commercial, Graphic Artists and Designers	120,000	2 to 11
Floral Designers	56,000	10
Industrial Designers	13,000	10
Photographers	91,000	14 to 24
Musicians	138,000	16 to 20
Singers	19,000	11 to 19
Technologists & Technicians		
Air Traffic Controllers	29,000	16 to 19
Broadcast Technicians	17,000	13 to 18
Library Technicians and Assistants	154,000	3 to 4
Marketing & Sales Occupations		
Manufacturers' Sales Workers	440,000	15 to 24
Service Occupations		
Firefighters	275,000	17 to 19
Police Officers	495,000	17 to 19
State Police Officers	55,000	13 to 15
Meatcutters	190,000	11 to 18
Barbers	112,000	7 to 22
Bellhops and Bell Captains	21,000	5 to 18
Flight Attendants	56,000	15 to 22
Agricultural Occupations		
Farm Occupations	2,689,000	-10 to -19
Mechanics & Repairs		
Aircraft Mechanics	109,000	15 to 22
Central Office Craft Occupations	85,000	-6 to -7
Central Office Equipment Installers	25,000	-10
Line Installers and Cable Splicers	70,000	5 to 19
Piano and Organ Tuners and Repairers	12,000	0
Pinsetter Mechanics	6,500	0 to 6
Vending Machine Mechanics	13,500	4 to 14
Watch Repairers	12,000	1 to 13

Table 8 (cont.)

Occupations Projected To Experience Limited Growth
During The 1980's

Occupation	Estimated Employment 1980	Range of Likely % Change in Employment 1980-90
Construction Occupations		
Stonemasons	9,000	10 to 18
Painters	382,000	14 to 25
Plasterers	24,000	9 to 17
Production Occupations		
Boilermaking Occupations	44,000	10 to 20
Bookbinders and Bindery Workers	117,000	-4 to -5
Compositors	128,000	-2 to -10
Coremakers (foundries)	6,200	6 to 9
Furniture Upholsters	35,000	3 to 15
Molders (foundries)	24,000	6 to 9
Ophthalimic Laboratory Technicians	27,000	12 to 24
Patternmakers (foundries)	3,000	6 to 9
Photographic Process Workers	77,000	6 to 16
Shoe Repairers	16,000	12 to 17
Tool-and-Die Makers	166,000	8 to 24
Stationary Engineers	147,000	11 to 18
Waste Water Treatment Plant Operators	41,000	5 to 8
Boiler Tenders	62,000	4 to 8
Electrotypers and Stereotypers	1,900	-42 to -46
Forge Shop Occupations	46,000	5
Machine Tool Operators	1,020,000	18 to 21
Photoengravers	10,000	-5 to -3
Printing Press Operators and Assistants	178,000	9 to 17
Transportation Occupations		
Intercity Busdrivers	30,000	8 to 16
Airplane Pilots	82,000	15 to 23
Merchant Marine Officers	13,000	4
Merchant Marine Sailors	24,000	-7

Source: Occupational Outlook Quarterly, Spring 1982