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VOLUME 3
Economic and
Social Profile

U.S. Army Corps of Engineers

Chesapeake Bay

FUTURE CONDITIONS REPORT

10733

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PREFACE

The Corps of Engineers' comprehensive study of Chesapeake Bay is being accomplished in three distinct developmental stages or phases. Each of these phases is responsive to one of the following stated objectives of the study program.

1. To assess the existing physical, chemical, biological, economic and environmental conditions of Chesapeake Bay and its related land resources.

2. To project the future water resources needs of Chesapeake Bay to the year 2020.

3. To formulate and recommend solutions to priority problems using the Chesapeake Bay Hydraulic Model.

In response to the first objective of the study, the initial or inventory phase of the program was completed in 1973 and the findings were published in a document titled Chesapeake Bay Existing Conditions Report. Included in this seven-volume report is a description of the existing physical, economic, social, biological and environmental conditions of Chesapeake Bay. This was the first published report that presented a comprehensive survey of the entire Bay Region and treated the Chesapeake Bay as a single entity. Most importantly, the report contains the historical records and basic data required to project the future demands on the Bay and to assess the ability of the resource to meet those demands.

In response to the second objective of the study, the findings of the second or future projections phase of the program are provided in this the Chesapeake Bay Future Conditions Report. The primary focus of this report is the projection of water resources needs to the year 2020 and the identification of the problems and conflicts which would result from the unrestrained growth and use of the Bay's resources. This report, therefore, provides the basic information necessary to proceed into the next or plan formulation phase of the program. It should be emphasized that, by design, this report addresses only the water resources related needs and problems. No attempt has been made to identify or analyze solutions to specific problems. Solutions to priority problems will be evaluated in the third phase of the program and the findings will be published in subsequent reports.

The Chesapeake Bay Future Conditions Report consists of a summary document and 16 supporting appendices. Appendices 1 and 2 are general background documents containing information describing the history and conduct of the study and the manner in which the study was coordinated with the various Federal and State agencies, scientific institutions and the public. Appendices 3 through 15 each contain information on specific water and related land resource uses to include an inventory

of the present status and expected future needs and problems. Appendix 16 focuses on the formulation of the initial testing program for the Chesapeake Bay Hydraulic Model. Included in this appendix is a description of the hydraulic model, a list of problems considered for inclusion in the initial testing program and a detailed description of the selected first year model studies program.

The published volumes of the Chesapeake Bay Future Conditions Report include:

Volume Number	Appendix Number and Title
1	Summary Report
2	1 - Study Organization, Coordination and History 2 - Public Participation and Information
3	3 - Economic and Social Profile
4	4 - Water-Related Land Resources
5	5 - Municipal and Industrial Water Supply 6 - Agricultural Water Supply
6	7 - Water Quality
7	8 - Recreation
8	9 - Navigation 10 - Flood Control 11 - Shoreline Erosion
9	12 - Fish and Wildlife
10	13 - Power 14 - Noxious Weeds
11	15 - Biota
12	16 - Hydraulic Model Testing

CHESAPEAKE BAY FUTURE CONDITIONS REPORT

APPENDIX 3

ECONOMIC AND SOCIAL PROFILE

TABLE OF CONTENTS

Chapter		Page
I	THE STUDY AND THE REPORT	1
	Authority	2
	Scope	4
	Supporting Studies	5
	Study Participation and Coordination	9
II	AN ECONOMIC AND SOCIAL HISTORY OF THE CHESAPEAKE BAY REGION	11
	Early Settlement	11
	The Tobacco Era	13
	Diversification of Agriculture	16
	Post-Revolutionary War Period	18
	The Canal Era	19
	The Railroad Era	21
	The Pre-Civil War Era	22
	The Civil War Years	24
	Rise of Metropolis	27
	The Expanding Metropolis	30
	The Bay Region in the Twentieth Century	33
	Population and Technology in the Twentieth Century	35
	Growth of Suburbs	39
III	POPULATION CHARACTERISTICS	49
	Population Movements	49
	Age Distribution and Educational Levels	56
	Employment and Income Levels	61
	A Shift-Share Analysis of the Chesapeake Bay Estuary Area	70
	Summary	72

TABLE OF CONTENTS (continued)

Chapter		Page
IV	ECONOMIC SECTORS	81
	Manufacturing	82
	Public Administration	98
	Agriculture, Forestry, and Fisheries	104
	Construction	114
	Mining	121
	Wholesale and Retail Trade	125
	Armed Forces	134
	Transportation, Communications, and Public Utilities	142
	Services	148
	Finance, Insurance, and Real Estate	152
	Summary	154
V	ECONOMIC AND DEMOGRAPHIC PROJECTIONS	163
	Methodology Used in Developing OBERS Projections	164
	Comparison of OBERS Series C and Series E Projections	168
	Economic and Demographic Projections Using Series C OBERS Projections	168
	Economic and Demographic Projections Using Series E OBERS Projections	261
	Comparison of Series C and Series E OBERS Projections	261
VI	SUMMARY	295

LIST OF TABLES

Number	Title	Page
3-1	Counties and Independent Cities within the Study Area by SMSA and Non-SMSA	7
3-2	Population of Major Study Area Cities, 1790 and 1860	24
3-3	Growth of Bay Area Urban Population, 1860-1900	30
3-4	Value Added by Manufacturing	34
3-5	Percentage Distribution of Personal Earnings by Broad Industrial Sources for Metropolitan Areas in the Chesapeake Bay Area, 1971	36
3-6	Federal, State, and Local Government Employment for the Estuary Area and the United States, 1940-1970	38
3-7	Means of Transportation, Baltimore, SMSA, 1970	40
3-8	Population Growth of the SMSA and Center Cities, 1940-1970	41
3-9	Population Data by Economic Subregion, Chesapeake Bay Estuary Area, and the United States for Selected Years 1860-1970	50
3-10	Urban and Rural Population by Economic Subregion, Chesapeake Bay Estuary Area, and the United States for Selected Years 1860-1970	52
3-11	Net Migration Between 1960 and 1970	55
3-12	Age Distribution by Economic Subregion - 1970	59
3-13	Training in the Major Estuary Area SMSA's for Males 16-64 Years Old with Less than 15 Years Schooling	61
3-14	Employment by Industry for the Chesapeake Bay Estuary Area by Economic Subregion, and for the United States - 1970	63
3-15	Unemployment Rates by Economic Subregion, Total Estuary Area and United States: April, 1960 and 1970	66

LIST OF TABLES (continued)

Number	Title	Page
3-16	Per Capita Income by Economic Subregion, Chesapake Bay Estuary Area, and the United States - 1969	68
3-17	A Shift-Share Analysis for the Chesapeake Bay Estuary Area	71
3-18	A Shift-Share Analysis for the Baltimore, Maryland Subregion with the Estuary Area as the Standard of Reference	73
3-19	A Shift-Share Analysis for the Washington, D. C. Subregion with the Estuary Area as the Standard of Reference	74
3-20	A Shift-Share Analysis for the Richmond, Virginia Subregion with the Estuary Area as the Standard of Reference	75
3-21	A Shift-Share Analysis for the Norfolk-Portsmouth, Virginia Subregion with the Estuary Area as the Standard of Reference	76
3-22	A Shift-Share Analysis for the Wilmington, Delaware SMSA with the Estuary Area as the Standard of Reference	77
3-23	Manufacturing Employment by Economic Subregion and Total Estuary Area, 1970	83
3-24	Value of Farm Products Sold by Subregion	106
3-25	Change in Housing Units by Subregion and Total Estuary Area - 1970	116
3-26	Wholesale Trade Sales and Firms in the Major Estuary Area SMSA's - 1972	129
3-27	Federal Military Installations in the Estuary Area by Subregion	138
3-28	Employment in the Transportation, Communications and Public Utilities Sector by Subregion, 1970	143
3-29	Number of People Employed in Various Services in the Estuary Area by Subregion	150

LIST OF TABLES (continued)

Number	Title	Page
3-30	A Comparison of OBERS Series C and Series E Projections	169
3-31	Demographic and Economic Trends for the United States, 1950-1969	170
3-32	Demographic and Economic Projections for the United States, 1980-2020, Series C	171
3-33	Demographic and Economic Trends for the United States, 1950-1971	172
3-34	Demographic and Economic Projections for the United States, 1980-2020, Series E	173
3-35	Demographic and Economic Trends for the Total Chesapeake Bay Estuary Area, 1950-1969	175
3-36	Demographic and Economic Projections for the Total Chesapeake Bay Estuary Area, 1980-2020, Series C	176
3-37	Sub-Segment and County Breakdown for Economic Area 15 - Philadelphia, PA.-N.J.	178
3-38	Demographic and Economic Trends for Economic Area 15 - Philadelphia, PA.-N.J., 1950-1969	180
3-39	Demographic and Economic Projections for Economic Area 15 - Philadelphia, PA.-N.J., 1980-2020, Series C	181
3-40	Demographic and Economic Trends for Economic Area 15-1, Allentown-Bethlehem-Easton, PA.-N.J. SMSA, 1950-1969	182
3-41	Demographic and Economic Projections for Economic Area 15-1, Allentown-Bethlehem-Easton, PA.-N.J. SMSA, 1980-2020, Series C	183
3-42	Demographic and Economic Trends for Economic Area 15-2, Atlantic City, N.J. SMSA, 1950-1969	184

LIST OF TABLES (continued)

Number	Title	Page
3-43	Demographic and Economic Projections for Economic Area 15-2, Atlantic City, N.J. SMSA, 1980-2020, Series C	185
3-44	Demographic and Economic Trends for Economic Area 15-3, Philadelphia, PA.-N.J. SMSA, 1950-1969	186
3-45	Demographic and Economic Projections for Economic Area 15-3, Philadelphia, PA.-N.J. SMSA, 1980-2020, Series C	187
3-46	Demographic and Economic Trends for Economic Area 15-4, Reading, PA. SMSA, 1950-1969	188
3-47	Demographic and Economic Projections for Economic Area 15-4, Reading, PA. SMSA, 1980-2020, Series C	189
3-48	Demographic and Economic Trends for Economic Area 15-5, Trenton, N.J. SMSA, 1950-1969	190
3-49	Demographic and Economic Projections for Economic Area 15-5, Trenton, N.J. SMSA, 1980-2020, Series C	191
3-50	Demographic and Economic Trends for Economic Area 15-6, Vineland-Millville-Bridgeton, N.J. SMSA, 1950-1969	192
3-51	Demographic and Economic Projections for Economic Area 15-6, Vineland-Millville-Bridgeton, N.J. SMSA, 1980-2020, Series C	193
3-52	Demographic and Economic Trends for Economic Area 15-7, Wilmington, Delaware-N.J.-Md. SMSA, 1950-1969	194
3-53	Demographic and Economic Projections for Economic Area 15-7, Wilmington, Delaware-N.J.-Md. SMSA, 1980-2020, Series C	195
3-54	Demographic and Economic Trends for Economic Area 15-8, Residual Non-SMSA Area, 1950-1969	196

LIST OF TABLES (continued)

Number	Title	Page
3-55	Demographic and Economic Projections for Economic Area 15-8, Residual Non-SMSA Area, 1980-2020, Series C	197
3-56	Sub-Segment and County Breakdown for Economic Area 16C - Harrisburg, PA.	198
3-57	Demographic and Economic Trends for Economic Area 16, Harrisburg, PA., 1950-1969	200
3-58	Demographic and Economic Projections for Economic Area 16, Harrisburg, PA., 1980-2020, Series C	201
3-59	Demographic and Economic Trends for Economic Area 16-1, Harrisburg, PA. SMSA, 1950-1969	202
3-60	Demographic and Economic Projections for Economic Area 16-1, Harrisburg, PA. SMSA, 1980-2020, Series C	203
3-61	Demographic and Economic Trends for Economic Area 16-2, Lancaster, PA. SMSA, 1950-1969	204
3-62	Demographic and Economic Projections for Economic Area 16-2, Lancaster, PA. SMSA, 1980-2020, Series C	205
3-63	Demographic and Economic Trends for Economic Area 16-3, York, PA. SMSA, 1950-1969	206
3-64	Demographic and Economic Projections for Economic Area 16-3, York, PA. SMSA, 1980-2020, Series C	207
3-65	Demographic and Economic Trends for Economic Area 16-4, Altoona, PA. SMSA, 1950-1969	208
3-66	Demographic and Economic Projections for Economic Area 16-4, Altoona, PA. SMSA, 1980-2020, Series C	209
3-67	Demographic and Economic Trends for Economic Area 16-5, Residual Non-SMSA Area, 1950-1969	210

LIST OF TABLES (continued)

Number	Title	Page
3-68	Demographic and Economic Projections for Economic Area 16-5, Residual Non-SMSA Area, 1980-2020, Series C	211
3-69	Sub-Segment and County Breakdown for Economic Area 17C - Baltimore, Md.	212
3-70	Demographic and Economic Trends for Economic Area 17, Baltimore, Md., 1950-1969	214
3-71	Demographic and Economic Projections for Economic Area 17, Baltimore, Md., 1980-2020, Series C	215
3-72	Demographic and Economic Trends for Economic Area 17-1, Baltimore, Md. SMSA, 1950-1969	216
3-73	Demographic and Economic Projections for Economic Area 17-1, Baltimore, Md. SMSA, 1980-2020, Series C	217
3-74	Demographic and Economic Trends for Economic Area 17-2, Maryland Non-SMSA Area, 1950-1969	218
3-75	Demographic and Economic Projections for Economic Area 17-2, Maryland Non-SMSA Area, 1980-2020, Series C	219
3-76	Demographic and Economic Trends for Economic Area 17-3, Virginia Non-SMSA Area, 1950-1969	220
3-77	Demographic and Economic Projections for Economic Area 17-3, Virginia Non-SMSA Area, 1980-2020, Series C	221
3-78	Demographic and Economic Trends for Economic Area 17-4, Delaware Non-SMSA Area, 1950-1969	222
3-79	Demographic and Economic Projections for Economic Area 17-4, Delaware Non-SMSA Area, 1980-2020, Series C	223

LIST OF TABLES (continued)

Number	Title	Page
3-80	Demographic and Economic Trends for Economic Area 17-5, Residual Non-SMSA Area, 1950-1969	224
3-81	Demographic and Economic Projections for Economic Area 17-5, Residual Non-SMSA Area, 1980-2020, Series C	225
3-82	Sub-Segment and County Breakdown for Economic Area 18C - Washington, D. C. -MD. -VA.	227
3-83	Demographic and Economic Trends for Economic Area 18, Washington, D. C. -MD. -VA., 1950-1969	229
3-84	Demographic and Economic Projections for Economic Area 18, Washington, D. C. -MD. -VA., 1980-2020, Series C	230
3-85	Demographic and Economic Trends for Economic Area 18-1, Washington, D. C. -MD. -VA. SMSA, 1950-1969	231
3-86	Demographic and Economic Projections for Economic Area 18-1, Washington, D. C. -MD. -VA. SMSA, 1980-2020, Series C	232
3-87	Demographic and Economic Trends for Economic Area 18-2, Maryland Non-SMSA Area, 1950-1969	233
3-88	Demographic and Economic Projections for Economic Area 18-2, Maryland Non-SMSA Area, 1980-2020, Series C	234
3-89	Demographic and Economic Trends for Economic Area 18-3, Virginia Non-SMSA Area, 1950-1969	235
3-90	Demographic and Economic Projections for Economic Area 18-3, Virginia Non-SMSA Area, 1980-2020, Series C	236
3-91	Demographic and Economic Trends for Economic Area 18-4, Residual Non-SMSA Area, 1950-1969	237

LIST OF TABLES (continued)

Number	Title	Page
3-92	Demographic and Economic Projections for Economic Area 18-4, Residual Non-SMSA Area, 1980-2020, Series C	238
3-93	Sub-Segment and County Breakdown for Economic Area 21C - Richmond, VA.	239
3-94	Demographic and Economic Trends for Economic Area 21, Richmond, Va., 1950-1969	241
3-95	Demographic and Economic Projections for Economic Area 21, Richmond, Va., 1980-2020, Series C	242
3-96	Demographic and Economic Trends for Economic Area 21-1, Richmond & Petersburg-Colonial Heights, Virginia SMSA's, 1950-1969	243
3-97	Demographic and Economic Projections for Economic Area 21-1, Richmond & Petersburg-Colonial Heights, Virginia SMSA's, 1980-2020, Series C	244
3-98	Demographic and Economic Trends for Economic Area 21-2, Non-SMSA Area, 1950-1969	245
3-99	Demographic and Economic Projections for Economic Area 21-2, Non-SMSA Area, 1980-2020, Series C	246
3-100	Demographic and Economic Trends for Economic Area 21-3, Residual Non-SMSA Area, 1950-1969	247
3-101	Demographic and Economic Projections for Economic Area 21-3, Residual Non-SMSA Area, 1980-2020, Series C	248
3-102	Sub-Segment and County Breakdown for Economic Area 22C - Norfolk-Portsmouth, VA.	249
3-103	Demographic and Economic Trends for Economic Area 22, Norfolk-Portsmouth, Va., 1950-1969	251
3-104	Demographic and Economic Projections for Economic Area 22, Norfolk-Portsmouth, Va., 1980-2020, Series C	252

LIST OF TABLES (continued)

Number	Title	Page
3-105	Demographic and Economic Trends for Economic Area 22-1, Newport News-Hampton, Va. SMSA, 1950-1969	253
3-106	Demographic and Economic Projections for Economic Area 22-1, Newport News-Hampton, Va. SMSA, 1980-2020, Series C	254
3-107	Demographic and Economic Trends for Economic Area 22-2, Norfolk-Portsmouth, Va. SMSA, 1950-1969	255
3-108	Demographic and Economic Projections for Economic Area 22-2, Norfolk-Portsmouth, Va. SMSA, 1980-2020, Series C	256
3-109	Demographic and Economic Trends for Economic Area 22-3, Virginia Non-SMSA Area, 1950-1969	257
3-110	Demographic and Economic Projections for Economic Area 22-3, Virginia Non-SMSA Area, 1980-2020, Series C	258
3-111	Demographic and Economic Trends for Economic Area 22-4, North Carolina Non-SMSA Area, 1950-1969	259
3-112	Demographic and Economic Projections for Economic Area 22-4, North Carolina Non-SMSA Area, 1980-2020, Series C	260
3-113	Independent City and County Breakdown for Economic Area 15E - Philadelphia, PA.-N.J.	262
3-114	Demographic and Economic Projections for Economic Area 15, Philadelphia, PA.-N.J., 1950-2020, Series E	263
3-115	Demographic and Economic Projections for Economic Area 15-1, Allentown-Bethlehem-Easton, PA.-N.J., 1950-2020, Series E	264
3-116	Demographic and Economic Projections for Economic Area 15-2, Atlantic City, N.J., 1950-2020, Series E	265

LIST OF TABLES (continued)

Number	Title	Page
3-117	Demographic and Economic Projections for Economic Area 15-3 - Philadelphia, PA. - N.J., 1950-2020, Series E	266
3-118	Demographic and Economic Projections for Economic Area 15-4, Reading, Pa., 1950-2020, Series E	267
3-119	Demographic and Economic Projections for Economic Area 15-5, Trenton, N.J., 1950-2020, Series E	268
3-120	Demographic and Economic Projections for Economic Area 15-6, Vineland-Millville-Bridgeton, N.J., 1950-2020, Series E	269
3-121	Demographic and Economic Projections for Economic Area 15-7, Wilmington, Del. - N.J. -Md., 1950-2020, Series E	270
3-122	Independent City and County Breakdown for Economic Area 16E - Harrisburg, Pa.	271
3-123	Demographic and Economic Projections for Economic Area 16, Harrisburg, Pa., 1950-2020, Series E	272
3-124	Demographic and Economic Projections for Economic Area 16-1, Harrisburg, Pa., 1950-2020, Series E	273
3-125	Demographic and Economic Projections for Economic Area 16-2, Lancaster, Pa., 1950-2020, Series E	274
3-126	Demographic and Economic Projections for Economic Area 16-3, York, Pa., 1950-2020, Series E	275
3-127	Demographic and Economic Projections for Economic Area 16-4, Altoona, Pa., 1950-2020, Series E	276
3-128	Independent City and County Breakdown for Economic Area 17E - Baltimore, Md.	277

LIST OF TABLES (continued)

Number	Title	Page
3-129	Demographic and Economic Projections for Economic Area 17, Baltimore, Md., 1950-2020, Series E	278
3-130	Demographic and Economic Projections for Economic Area 17-1, Baltimore, Md., 1950-2020, Series E	279
3-131	Independent City and County Breakdown for Economic Area 18E - Washington, D. C. - MD. -VA.	280
3-132	Demographic and Economic Projections for Economic Area 18, Washington, D. C. - Md. -Va., 1950-2020, Series E	281
3-133	Demographic and Economic Projections for Economic Area 18-1, Washington, D. C. - Md. -Va., 1950-2020, Series E	282
3-134	Independent City and County Breakdown for Economic Area 21E - Richmond, Va.	283
3-135	Demographic and Economic Projections for Economic Area 21, Richmond, Va., 1950-2020, Series E	284
3-136	Demographic and Economic Projections for Economic Area 21-1, Petersburg-Hopewell, Va., 1950-2020, Series E	285
3-137	Demographic and Economic Projections for Economic Area 21-2, Richmond, Va., 1950-2020, Series E	286
3-138	Independent City and County Breakdown for Economic Area 22E - Norfolk-Portsmouth, Va.	287
3-139	Demographic and Economic Projections for Economic Area 22 - Norfolk-Portsmouth, Va., 1950-2020, Series E	288
3-140	Demographic and Economic Projections for Economic Area 22-1, Newport News-Hampton, Va., 1950-2020, Series E	289

LIST OF TABLES (continued)

Number	Title	Page
3-141	Demographic and Economic Projections for Economic Area 22-2, Norfolk-Virginia Beach-Portsmouth, Va., 1950-2020, Series E	290
3-142	A Comparison of Series C and Series E OBERS Projections of Population and Total Employment by Economic Area	291
3-143	A Comparison of Series C and Series E OBERS Projections of Population and Total Employment for the Estuary Area	292

LIST OF FIGURES

Number	Title	Page
3-1	Chesapeake Bay Estuary Area	6
3-2	Percent Gain (or Loss) in Population, 1960-1970, by County for the Estuary Area	53
3-3	Net Migration by County, 1960-1970, for the Estuary Area	54
3-4	Population Density by County, 1970, for the Estuary Area	57
3-5	Age Distribution for the United States and Chesapeake Bay Estuary Area - 1970	58
3-6	Median School Years Completed by Males 25 Years Old and Over, 1970, for the Estuary Area	60
3-7	Percent of Total Employment by Industry for Chesapeake Bay Estuary Area and the United States - 1970	65
3-8	Median Income of Families in the Estuary Area, 1969	67
3-9	Income Distribution for the Estuary Area and the United States, 1969	69

LIST OF FIGURES (continued)

Number	Title	Page
3-10	Manufacturing Employment for the Chesapeake Bay Estuary Area and the United States, 1970	85
3-11	Percent of Total Estuary Area Manufacturing Employment by County, 1970	87
3-12	Percent of Total Estuary Area Employment in Heavy Water-Using Industries by County, 1970	88
3-13	Percent of Total Estuary Area Public Administration Employment in Each County, 1970	100
3-14	Value of All Agricultural Products Sold for the Estuary Area, by County, 1969	105
3-15	Value of Livestock, Poultry, and their Products for the Estuary Area, by County, 1969	107
3-16	Value of All Crops Including Nursery Products and Hay for the Estuary Area, by County, 1969	108
3-17	Absolute Number of Housing Units Gained or Lost for the Estuary Area by County, 1960 to 1970	115
3-18	Retail Trade Sales for the Estuary Area by County, 1972	127
3-19	Wholesale Trade Sales for the Estuary Area by County, 1972	128
3-20	Percentage of Total Estuary Armed Forces Employment by County	135
3-21	BEA Economic Areas	166
3-22	Philadelphia Economic Area	179
3-23	Harrisburg Economic Area	199
3-24	Baltimore Economic Area	213
3-25	Washington Economic Area	228

LIST OF FIGURES (continued)

Number	Title	Page
3-26	Richmond Economic Area	240
3-27	Norfolk-Portsmouth Economic Area	250

CHAPTER I

THE STUDY AND THE REPORT

The Chesapeake Bay Study developed through the need for a complete and comprehensive investigation of the use and control of the water resources of the Bay Area. In the first or inventory phase of the study, an assessment was made of the Bay's existing physical, chemical, biological, economic, social, and environmental conditions and problem areas. Set forth in the Existing Conditions Report, this information was used as a common source of reference for the second or future projections phase of the Chesapeake Bay Study Program. The Future Conditions Report, of which this appendix is a part, presents the findings of the second phase of the study. Included are: projections of future water resource needs and problem areas; general means that might best be used to satisfy those needs; and recommendations for future studies and hydraulic model testing. As a result, this report constitutes the next step toward the goal of developing a comprehensive water resource management program for the Chesapeake Bay Region.

Chesapeake Bay serves as a vast natural asset to the surrounding land area. Along with its tributaries, the Bay provides a natural transportation network on which the economic development of the Region has been based, a wide variety of water-oriented recreational opportunities, a source of water supply for both municipalities and industries, and the site for final disposal of waste products. All of the resources provided by the Bay interact with each other in forming the Chesapeake Bay ecosystem. Unfortunately, problems often arise when man's intended use of one resource conflicts with another resource.

The "Economic and Social Profile Appendix" will focus on certain socio-economic characteristics of the Chesapeake Bay Region and its people in order to provide a clearer understanding of future water resource needs and problem areas. The socio-economic topics which are addressed in this appendix include: an economic and social history of the Chesapeake Bay Region; population characteristics of its people; a description of the various economic sectors found in the Estuary Area; and economic and demographic projections for the Bay Region.

AUTHORITY

The authority for the Chesapeake Bay Study and the construction of the hydraulic model is contained in Section 312 of the River and Harbor Act of 1965, adopted 27 October 1965, which reads as follows:

> (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to make a complete investigation and study of water utilization and control of the Chesapeake Bay Basin, including the waters of the Baltimore Harbor and including, but not limited to, the following: navigation, fisheries, flood control, control of noxious weeds, water pollution, water quality control, beach erosion, and recreation. In order to carry out the purposes of this section, the Secretary, acting through the Chief of Enginers, shall construct, operate, and maintain in the State of Maryland a hydraulic model of the Chesapeake Bay Basin and associated technical center. Such model and center may be utilized, subject to such terms and conditions as the Secretary deems necessary, by any department, agency, or instrumentality of the Federal Government, or of the States of Maryland, Virginia, and Pennsylvania, in connection with any research, investigation, or study being carried on by them of any aspect of the Chesapeake Bay Basin. The study authorized by this section shall be given priority.
>
> (b) There is authorized to be appropriated not to exceed $6,000,000 to carry out this section.

An additional appropriation for the study was provided in Section 3 of the River Basin Monetary Authorization Act of 1970, adopted 19 June 1970, which reads as follows:

> In addition to the previous authorization, the completion of the Chesapeake Bay Basin Comprehensive Study, Maryland, Virginia, and Pennsylvania, authorized by the River and Harbor Act of 1965, is hereby authorized at an estimated cost of $9,000,000.

As a result of Tropical Storm Agnes, which caused extensive damage in Chesapeake Bay, Public Law 92-607, the Supplemental Appropriation Act of 1973, signed by the President on 31 October 1972, included $275,000 for additional studies of the impact of the storm on Chesapeake Bay. A report was consequently published in March 1975 entitled "Impact of Tropical Storm Agnes on Chesapeake Bay."

Prevously, measures taken to utilize and control the water and land-related resources of the Chesapeake Bay Basin have generally been toward solving individual problems. The Chesapeake Bay Study provides a comprehensive study of the entire Bay Area in order that the most beneficial use be made of the water-related resources. The major objectives of the Study are to:

a. Assess the existing physical, chemical, biological, economic, and environmental conditions of Chesapeake Bay and its water resources.

b. Project the future water resources needs of Chesapeake Bay to the year 2020.

c. Formulate and recommend solutions to priority problems using the hydraulic model.

The Chesapeake Bay Existing Conditions Report, published in 1973, met the first objective of the Study by presenting a detailed inventory of the Chesapeake Bay and its water resources. Divided into a summary and four supporting appendixes, the report presented an overview of the Bay area and the economy; a survey of the Bay's land resources and the Bay's use; and a description of the Bay's life forms and hydrodynamics.

The purpose of the Future Conditions Report is to project the future water resource needs and problem areas of Chesapeake Bay to the year 2020. The report will also include recommendations for future studies and model testing required to develop a comprehensive management program for the Bay.

The basic purpose of this appendix is to provide an insight into both past and present economic and social characteristics of the Bay Region along with projections of future populations, total employment, total personal income, and total earnings. Many of the projections provided in this appendix will act as input to other functional studies and will ultimately prove useful in projecting future needs and problem areas within the Chesapeake Bay Region.

SCOPE

The scope of the Chesapeake Bay Study and Future Conditions Report includes the multi-disciplinary fields of engineering and the social, physical, and biological sciences. The Study is being coordinated with all Federal, State, and local agencies having an interest in Chesapeake Bay. All conclusions are based on historical information supplied by the preparing agencies having expertise in that field. In addition, the basic assumptions and methodologies are quantified for accuracy in the sensitivity sections. Only general means to satisfy the projected resource needs are presented, as specific recommendations are beyond the scope of the Study.

The "Economic and Social Profile Appendix" has been prepared and reported in four parts. In the "Economic and Social History Chapter" (Chapter II), the Chesapeake Bay Region's development is traced from earliest settlement in 1607 through a discussion of population and technology in the Twentieth Century. United States Census Data were used in the "Population Characteristics Chapter" (Chapter III) to determine population movements, age distribution, educational levels, and employment and income levels in the Chesapeake Bay Region. The detailed economic analysis (Chapter IV "Economic Sectors") includes a survey of such industries (economic sectors) as manufacturing; public administration; agriculture, forestry, and fisheries; construction; mining; wholesale and retail trade; armed forces; transportation, communications, and public utilities; services; and finance, insurance, and real estate. All these sectors are disaggregated, where appropriate, into various components. Manufacturing, for instance, is broken down into electrical machinery, chemicals and allied products, and food and kindred products. In addition, the various economic

sectors are examined on a geographical or subregional basis. For the economic and demographic projections portion of this appendix (Chapter V), two sets of projections are provided for comparison purposes (Series C and Series E). The projection data were obtained from a program of economic measurement, analysis, and projection conducted by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce and the Economic Research Service of the U.S. Department of Agriculture. The Series E Projections were derived from more recent economic and demographic data and assume a gradual decline of fertility rates and a reduced level of Defense spending. Thus, for example, population projected by Series E is generally lower than that projected by Series C for a given region. The Series E projections were used for the sensitivity analysis in Chapter V.

It should be noted that the terms "Bay Region" and "Estuary Area" are used interchangeably throughout this appendix. They refer to that group of counties and Standard Metropolitan Statistical Areas (SMSA's) which touch or have a major influence on the Chesapeake Bay. The area, as delineated in Figure 3-1 includes six SMSA's, 35 non-SMSA counties, and four independent cities (besides those included in the SMSA's). Also shown in Figure 3-1 are the six BEA Economic Areas within which the Chesapeake Bay Estuary Area is contained. The economy of the Estuary Area is best understood in light of the relationship to these six BEA Economic Areas. Table 3-1 lists the counties and independent cities within the Estuary Area by SMSA and non-SMSA.

SUPPORTING STUDIES

The "Economic and Social Profile Appendix" was prepared by the Baltimore District Office, U.S. Army Corps of Engineers. Much of the input to the appendix was provided by various U.S. Bureau of the Census publications such as:

U.S. Census of Population: 1970, "General Demographic Trends for Metropolitan Areas, 1960 to 1970."

U.S. Census of Population: 1970, "General Population Characteristics."

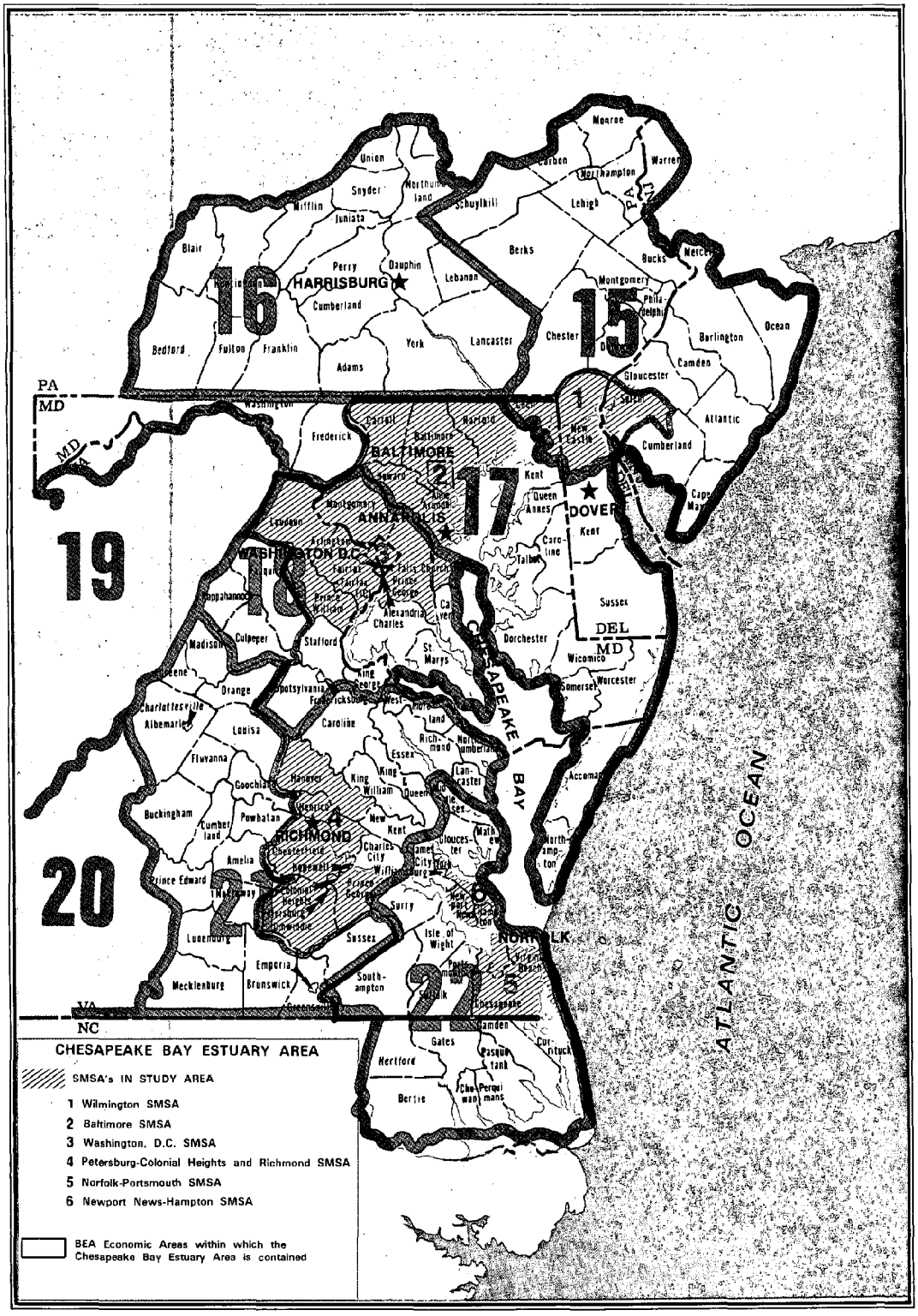

Figure 3-1 Chesapeake Bay Estuary Area

TABLE 3-1
COUNTIES AND INDEPENDENT CITIES
WITHIN THE STUDY AREA BY SMSA AND NON-SMSA

Wilmington SMSA

Cecil County (Maryland)
New Castle County (Delaware)
Salem County (New Jersey)

Baltimore SMSA

Anne Arundel County (Maryland)
Baltimore City (Maryland)
Baltimore County (Maryland)
Carroll County (Maryland)
Harford County (Maryland)
Howard County (Maryland)

Washington, D.C. SMSA

City of Alexandria (Virginia)
Arlington County (Virginia)
City of Fairfax (Virginia)
City of Falls Church (Virginia)
Loudoun County (Virginia)
Montgomery County (Maryland)
Prince Georges County (Maryland)
Prince William County (Virginia)
Washington, D.C.

Petersburg-Colonial Heights and Richmond SMSA's

Chesterfield County (Virginia)
City of Colonial Heights (Virginia)
Dinwiddie County (Virginia)
Hanover County (Virginia)
Henrico County (Virginia)
City of Hopewell (Virginia)
City of Petersburg (Virginia)
Prince George County (Virginia)
City of Richmond (Virginia)

Norfolk-Portsmouth SMSA

City of Chesapeake (Virginia)
City of Norfolk (Virginia)
City of Portsmouth (Virginia)
City of Virginia Beach (Virginia)

Newport News-Hampton SMSA

City of Hampton (Virginia)
City of Newport News (Virginia)
York County (Virginia)

Non-SMSA Counties/Independent Cities

Accomack County (Virginia)
Calvert County (Maryland)
Caroline County (Maryland)
Caroline County (Virginia)
Charles County (Maryland)
Charles City County (Virginia)
Dorchester County (Maryland)
Essex County (Virginia)
City of Franklin (Virginia)
City of Fredericksburg (Virginia)
Gloucester County (Virginia)
Isle of Wight (Virginia)
James City County (Virginia)
Kent County (Maryland)
Kent County (Delaware)
King George County (Virginia)
King & Queen County (Virginia)
King William County (Virginia)
Lancaster County (Virginia)
Mathews County (Virginia)
Middlesex County (Virginia)
New Kent County (Virginia)
Northampton County (Virginia)
Northumberland County (Virginia)
Queen Anne's County (Maryland)
Richmond County (Virginia)
St. Mary's County (Maryland)
Somerset County (Maryland)
Southampton County (Virginia)
Spotsylvania County (Virginia)
Stafford County (Virginia)
City of Suffolk (Virginia)
Surry County (Virginia)
Sussex County (Delaware)
Talbot County (Maryland)
Westmoreland County (Virginia)
Wicomico County (Maryland)
City of Williamsburg (Virginia)
Worcester County (Maryland)

U.S. Census of Population: 1970, "General Social and Economic Characteristics."

U.S. Census of Population: 1970, "Number of Inhabitants."

Census of Agriculture: 1969, "Statistics for the States and Counties."

Census of Housing: 1970, "Detailed Housing Characteristics."

Census of Manufactures: 1972, "Area Series."

Census of Manufactures: 1972, "Water Use in Manufacturing."

Census of Wholesale Trade: 1972, "Area Statistics."

Census of Retail Trade: 1972, "Area Statistics."

All of the projections presented in Chapter V of this appendix were obtained from the OBERS program conducted by the Bureau of Economic Analysis (BEA)--formerly the Office of Business Economics (OBE)--of the U.S. Department of Commerce, and the Economic Research Service (ERS) of the U.S. Department of Agriculture. The OBERS program provides a regional economic information system covering the past as well as the future and treating the economic activity of the Nation as a whole.

Appendix A of the Chesapeake Bay Existing Conditions Report, entitled "The People and the Economy", provided background information for this appendix as did a number of the appendixes of the Future Conditions Report.

In addition to the above, there were a number of other government and private publications used in preparation of this appendix. Specific sources of data are listed at the end of each chapter.

STUDY PARTICIPATION AND COORDINATION

Due to the wide scope, large geographical area, and many resources covered by the Chesapeake Bay Study, data input was required from many sources. Various Federal, State, and local agencies throughout the Bay Region have customarily developed expertise in certain areas of water resource development. Although overall coordination of the study effort was provided by the Corps of Engineers, input from various sources was required in order to obtain the best study coordination and problem identification. Therefore, an Advisory Group and Steering Committee were established. Five Task Groups were also formed to guide preparation of reports on related resource categories. They are:

1) Economic Projection Task Group
2) Water Quality and Supply, Waste Treatment, and Noxious Weeds Task Group
3) Flood Control, Navigation, Erosion, and Fisheries Task Group
4) Recreation Task Group
5) Fish and Wildlife Coordination Group

Detailed information on the composition of each task group as well as the members of the Advisory Group is presented in the Chesapeake Bay Plan of Study and in Appendix 1, Study Organization, Coordination, and History.

This appendix was prepared under the guidance of the Economic Projection Task Group whose members include: the Bureau of Economic Analysis and the National Marine Fisheries Service of the Department of Commerce, the Economic Research Service of the Department of Agriculture, Department of Housing and Urban Development, Department of Interior, Environmental Protection Agency, Army Corps of Engineers, and the States of Delaware, Maryland, Virginia, Pennsylvania, and the District of Columbia. The task group is involved in studies designed to provide an understanding of the economic base of the Chesapeake Bay Area in terms of its geographic location, its industrial detail, and its strengths and weaknesses.

CHAPTER II

AN ECONOMIC AND SOCIAL HISTORY OF THE CHESAPEAKE BAY REGION

EARLY SETTLEMENT

The exploration of the Chesapeake Bay Region may have begun as early as the 11th century when the area was probably visited by Thorfinn Karlesefni, a Viking. It is also thought that John Cabot knew of the Bay in 1498 and that Giovanni de Verrazano sailed into the Bay in 1524.

However, the first fully documented exploration and mapping of the Chesapeake Bay Region had to wait until 1608 when Captain John Smith left the colony of Jamestown, in Virginia, and navigated all the way to the head of the Bay. Captain Smith described the Chesapeake Bay Region in his diary as "a country that may have the prerogative over most places known, for large and pleasant navigable rivers, heaven and earth never agreed better to frame a place for man's habitation."

Man's habitation at the time, except for the Jamestown colony, consisted of such Indian tribes as the Assateagues, Nanticokes, Susquehannockes, and Choptanks. They lived in towns twenty to a hundred miles apart, usually located on a river, and consisting of several hundred families. They grew tobacco and corn and harvested oysters, crabs, and finfish from the Bay's waters. The natives, according to Captain Smith, also ran commercial strip mines (possibly producing antimony) which discolored the streams in the area. This became the first documented instance of man-made pollution in the Bay. However, the Indian settlements were so spread out and had

such relatively low population densities that these and other man-caused pollutants were easily taken care of by the Bay's ecosystem.

The Jamestown colony, from which Captain Smith sailed, was founded in 1607 by Captain Christopher Newport with financial backing from the London-based Virginia Company. It became the first permanent English settlement in America. Its location near a malarial swamp, however, was an unfortunate one because of the disease and discomfort which plagued the settlement. Jamestown itself grew slowly; yet in twelve short years, plantations had spread up both sides of the James River as far as the Appomattox River. By 1624, these plantation settlements extended inland to the head of navigation at the Fall Line, close to what is now Richmond.

The early settlers, like Captain Smith, were extremely impressed by the beauty and abundance of the Bay Region. They reported large numbers of waterfowl which blackened the sky, flocks of wild turkeys, and a profusion of shad, sturgeon, and drumfish. Oysters were reported to be as large as 13 inches long and crabs grew to a length of 12 inches.

The original plan for the development of the Virginia colony was to send the upper strata of England's vast pool of unemployed to the colony to work in urban centers producing goods for the English market. The colonists were urged to send back to England lumber, naval stores, wine, skins, fish, and other goods scarce in the mother country. These goods, however, could not be produced in Virginia at a low enough cost to be profitable. After several years of economic stagnation, the colonists, led by John Rolfe, discovered a crop which could be produced profitably in the New World and which enjoyed a large market in England. This crop was tobacco.

Tobacco captured the imagination of the colonists almost over night. It was planted in every available clearing, including the fort and streets of Jamestown. The use of tobacco was very fashionable among the upper classes of London, who were willing to pay its weight in silver.

The Virginia Company, however, did not share the colonists' enthusiasm for tobacco, agreeing with King James in calling it a "deceivable weed" which served neither for "necessity nor for ornament to the life of man." The Company continued to encourage and invest in the iron, glass, lumber, fisheries, and shipbuilding industries; however, these attempts were almost totally unsuccessful.

In 1622, the Virginia Company was dealt a severe setback when between three and four hundred of the colony's 1,240 inhabitants were killed in a massacre by Indians. Discouraged and in dire financial straits, the Company abandoned its scheme for diversification and was soon after dissolved by action of the Crown.

THE TOBACCO ERA

Tobacco dominated the economy of the Chesapeake colonies after 1622 for more than two centuries. It was easy to understand the colonists' preoccupation with the crop. Tobacco prices were so high that it was estimated a man could earn five to six times as much cultivating tobacco than in growing grain. Tobacco imports to England from the Bay Region increased from 60,000 pounds in 1622 to 500,000 pounds in 1628 and up to 1,500,000 pounds in 1639.

The Chesapeake Bay's extensive network of natural waterways opened up approximately 10,000 square miles of tidewater land to immediate cultivation. Settlement quickly spread, first along major rivers, then followed smaller tributaries and finally spread up the Bay all the way to the Susquehanna River. Settlement in the upper part of the Bay was stimulated by several treaties with the Indians and by the granting of a charter to Lord Cecilus Calvert for the Maryland province in 1632. A permanent settlement was founded two years later at St. Mary's City on a tributary of the Potomac River. In 1660, approximately 80,000 people lived in the English colonies, two-thirds of these in the Chesapeake Bay Area.

There were several factors which brought these immigrants to the Bay Region. The first factor was the high level of wages which prevailed in the area, especially when compared to those in England's seriously depressed economy. An ordinary laborer could earn four or five times as much growing tobacco in Virginia or Maryland than he could for his services in England. Even highly skilled artisans often abandoned their trades upon reaching the colonies and turned to the cultivation of tobacco.

Another factor which brought many migrants to the Bay Area was the liberal land distribution policies of the Virginia and Maryland governments. Virginia offered 50 acres to any person who could pay his way from Europe. A family of five would receive 250 acres under this system. Lord Baltimore, during the early days of the province, promised 2,000 acres of land to every person who could transport five adult males to Maryland with lesser amounts of land for fewer people.

Many of the people who came to the Bay Area came as servants, either voluntarily or involuntarily. It was estimated that over one-third of the white immigrants to the Chesapeake Bay Region prior to the Revolution, arrived in some form of bondage. During the early period of settlement, the system of indentured servitude provided most of the labor arriving in the colonies. In this system, the planters advanced the passage of money to immigrants who wanted to go to the New World but could not afford the expensive voyage. The newcomer was placed under contract to the planter to work off his debt. The period of servitude usually lasted from four to five years.

In contrast to this "voluntary" form of servitude, many others came to the colonies against their will. Political, religious, and war prisoners were often sent to the colonies as servants. Over 1,600 Scottish prisoners, captured at the Battle of Worchester, were sent to Virginia in 1651. The kidnapping of teenage boys and girls was a profitable undertaking in the streets of London and Bristol. On arrival in the colonies, these coerced workers were placed on auction blocks and sold to the highest bidder.

Despite the efforts of first the Virginia Company and later the British government to establish urban centers in the Bay Area, there was little inclination on the part of these new colonists to settle into towns. In an environment in which each planter could load his crops on ships which could dock almost at his doorstep, towns were simply not needed. "No country is better watered," wrote the Reverend Jones, "for the conveniency of which most houses are built near some landing place; so that anything may be delivered to a gentleman there from London, Bristol, etc., with very little trouble and cost." In addition, the plantation economy discouraged the growth of towns since many urban functions such as cobbling, clothesmaking, buck manufacturing, and repairs could be effectively handled on plantations. The land distribution policies of Maryland and Virginia also tended to keep settlement spread out through the region. It was largely these factors which kept towns such as Williamsburg, Jamestown, St. Mary's, Lancaster, Yorktown, Chestertown, and Cambridge from developing in size and importance. It took another phase of the Bay Region's economic history to bring about development of big cities.

In 1660, the Royal government passed a series of laws, known as the Navigation Acts, which regulated the trade of the colonies. Important colonial products, such as tobacco, were to be sent only to England or English colonies. However, the tobacco production of the Chesapeake colonies had long since outgrown the English market. The Royal government reasoned that Maryland and Virginia would have to cut tobacco production and turn their energies toward manufacturing or suffer the consequences of overproduction. The colonists, for the most part, suffered. Prices fell to half of their previous levels. Planters complained that their returns were so low they could "live but poorly upon it." The Governor and Council of Virginia stated that the "people of Virginia are generally, some few excepted, extremely poor, not being able to provide against the pressing necessities of their families." The small farmer was especially hard hit. The profits which had previously made it possible for the freedman to advance his position dwindled. Instead, most found themselves in debt to English merchants. The laborer who came to the Bay Area after 1660 found conditions in the colony hardly more favorable for his advancement than in England.

Population growth in the Bay colonies slowed considerably after 1660. For example, the population of Virginia increased 200 percent during the 13 years prior to 1662, but increased by only 25 percent during the next 13 year period. Most of the phenomenon was due to the migration of poor freedmen out of the area and into colonies where more favorable economic conditions existed. This outmigration is evidenced by the fact that between 1662 and 1675, 20,000 people came to Virginia from England, but the total population of the colony increased by only 10,000.

Complete disaster in the Bay colonies was averted by two developments. The first was the gradual expansion of the European tobacco market over a period of 40 years. By the end of the 17th century, two-thirds of the Chesapeake crop was annually reexported from England to the Baltic countries as well as Holland, France, Spain, Ireland, and other parts of Europe. The second development was the greatly increased rate of importation of cheap labor in the person of African slaves. Slaves began to pour into the colonies in increasing numbers after the British were able to capture a part of the slave trade from the Dutch in the late 17th century. In 1649, when Virginia's population numbered 15,000, there were only about 300 blacks in that total. During the period from 1699 to 1708, however, over 6,800 slaves arrived in the Virginia colony, a number exceeding the entire importation during the 17th century. The use of slave labor lowered production costs enough to allow the larger planters who could afford slaves to stay in business.

The Navigation Acts, however, were partially successful in stimulating manufacturing in the Bay Region. When the price of tobacco fell so low that the planters were unable to afford necessary supplies from England, there was a spurt of industrial activity in tanning, shoemaking, and in the manufacturing of linen, woolen, and cotton cloth.

The coal and iron industries also experienced some development during the first half of the 18th century. The first coal mine in North America was found along the James River in Chesterfield County, Virginia. Extraction began in 1735 and the area enjoyed a virtual monopoly on the Nation's coal supply for almost a century.

An important pig iron industry was established in the Maryland foothills about this time attracted by the abundant iron ore and fuel located in the area. By mid-18th century, Maryland was producing a quantity approximately equal to one-seventh of the production of England.

DIVERSIFICATION OF AGRICULTURE

As tobacco prices continued to fall during the first part of the 18th century, the growing of corn and wheat became increasingly important to the economy of the Chesapeake Bay Region. This was especially true in areas where tobacco had never grown very well, such as the Eastern Shore. It was discovered that these grains would thrive on old tobacco fields which were previously thought as "worn out." The cultivation of grain was further encouraged by the development of grain markets in the West Indies, Southern Europe, and New England, and by the influx of grain-growing Germans into Central Maryland and Virginia. Chestertown and Baltimore, Maryland, along with Norfolk, Virginia, developed into important centers for grain export. Baltimore had been founded in 1729 and made a privileged place for the landing, loading, and selling of goods to insure its success. Its location further inland than Philadelphia and New York, combined with its proximity to water power made it an especially attractive site. The city soon grew at the expense of older ports in the vicinity--took their foreign trade away and began serving as a collection point for commodities for the greater part of the Bay Region. By

the beginning of the nineteenth century, Baltimore was the fourth largest port in the United States with industries including flour mills, refineries, distilleries, tobacco factories, rope works, paper and cotton mills, nail and shoe factories, tanneries, and lumber yards.

Since a large part of the West Indies trade was carried on in colonial vessels, the shipbuilding and outfitting industries in the Bay Region were given an important stimulus. Norfolk, Annapolis, Chestertown, and Baltimore constituted the chief shipbuilding centers. The principal center, Norfolk, was advantageously located near the Dismal Swamp which was rich in lumber and naval stores. The town also had a sufficiently deep harbor to accommodate the largest vessels of the period. In addition, Norfolk was located near the mouth of the Bay, making trade easy with Europe and other parts of the world. The large shipping business which developed had a multiplier effect, attracting large numbers of merchants, artisans, shipowners, captains, and sailors. The Chesapeake Bay Region became a shipbuilding center second only to New England in the American colonies during the half century before the Revolution.

Despite the growth of the shipbuilding and grain industries during the period before the Revolution, tobacco remained the most important product of the Region. Slaves continued to pour into the area to work on the vast plantations. The Census of 1790 showed Maryland and Virginia with approximately 57 percent of all the slaves in the United States.

The continued influx of slaves put an almost complete halt to the importation of white servants and had a disastrous effect on the Bay Region's middle class of small planters and tradesmen. This was especially true in Southern Maryland and in Virginia where the plantation system was well entrenched. Slaves were often taught to be sawyers, carpenters, smiths, and coopers. The use of Negro craftsmen on the plantations tended, by lowering wages and casting a stigma on skilled labor, to run white men out of the trades. The absence of white artisans was acutely felt, for they would have provided a sorely needed element of strength and democracy in a society economically unsound and basically aristocratic. These white skilled workers left the Bay Area in large numbers, usually migrating to one of the surrounding colonies where they could earn a decent living.

The small planter often experienced a similar fate. Unable to compete with the low production costs of the slave-holding plantation owners, many small planters began to raise a higher quality variety of tobacco which required skills the newly

arrived slaves had not yet acquired. This worked fairly well during the first half of the 18th century. As the slaves became more proficient in the cultivation of tobacco, however, this advantage was soon lost. Many small planters joined the tradesmen in leaving the Bay Area.

In short, the economy of the Chesapeake Region, from settlement of Jamestown to the American Revolution, was based almost entirely on the production of tobacco. Some diversification of agriculture took place during the 18th century as well as some minor industrial activity, but both remained relatively unimportant in comparison to tobacco. On the eve of the Revolution, Norfolk, Virginia was considered to be the most important town in the Bay Area. However, there were no major concentrations of population anywhere in the area. Less than 3 percent of the total population was considered urban in 1776. As might be expected in a largely rural environment, there was little economic or social interaction between the colonists. Each plantation had its own, self-contained, economic and social structure. The Bay Area was thus deprived of the cultural and economic advantages of urban communities during the colonial period.

POST-REVOLUTIONARY WAR PERIOD

Both the Revolutionary War and the War of 1812 had significant impacts on the Chesapeake Bay Region. Several major battles and many minor skirmishes caused extensive property damage and loss of life in the area. The town of Norfolk was destroyed by the British troops during the Revolution. The tobacco industry was especially hard hit during the two wars as naval blockades by the British effectively cut off the European markets to American trade causing tobacco prices to tumble in this country.

On the other hand, there were several positive developments in the Area during this period. Baltimore enjoyed quite a shipbuilding and outfitting boom during both wars. The town's shipbuilders outfitted the first frigate of the Continental Navy, and the first two cruisers of the United States Navy. During the War of 1812, a fleet of 126 privateers operated out of Baltimore. These 126 accounted for 556 British vessels, or

nearly one-third of the total taken by American vessels of all classes, including the Navy.

Another important development was the establishment of the new National Capital in the District of Columbia, on the Potomac River. The 131 employees of the Departments of State, War, Navy, and the Post Office were moved to their new headquarters in June of 1800.

Probably the most important economic development in the Bay Region during the period after the Revolutionary War was the tremendous growth of the towns along the Fall Line as market and processing centers for the produce of the hinterlands. Settlement had continued to spread westward, moving through the Shenandoah Valley and into the vast, highly fertile Ohio River Valley. Produce from these Western lands moved through the ports along the Mid-Eastern Coast of the United States and then on to the major population centers of the world. The individual rates of growth of these port cities depended on the productivity and extent of hinterland which each controlled.

The Fall Line cities in the Chesapeake Bay Region were, as a whole, ideally located to capture a large part of the Western trade. They were farther west than any of the other major ports on the Eastern Coast of the United States and most were on waterways which could be navigated by ocean-going vessels. They were also ideally situated for the processing of raw materials due to an abundance of swiftly-flowing streams which offered water power for the operation of mills.

THE CANAL ERA

The City of Richmond, along with the twin towns of Alexandria and Georgetown in the Washington, D. C. area, were well situated to significantly increase the area under their commercial control. They were located on rivers which flowed not only through the fertile Piedmont, but all the way into the Blue Ridge Mountains, close to the Ohio River system. Unfortunately, the Potomac and James Rivers were navigable only by shallow-draft vessels above the Fall Line, and then only during

periods of high water. Around 1785, the towns launched projects to build canals around the falls and to improve the navigability of the rivers above the falls.

The James River project moved along steadily, and by 1800 the river improvements extended all the way to Buchanan, Virginia, 196 miles from Richmond. Political bickering between Maryland and Virginia held up the completion of the Potomac River project until 1823.

Both projects were immediately successful. The cost of moving freight down the river and canal systems was less than half the equivalent cost by wagon. Traffic down the Potomac River tripled the first year after the opening of the Great Falls Canal.

These improvements were not totally satisfactory, however, because the canals were designed for shallow-draft boats and the rivers were still only navigable during times of high flow. In 1823, it was estimated that there were only 45 days in the year on which goods and produce could be borne down the Potomac to Alexandria and Georgetown.

Meanwhile, New York City seemed likely to capture the bulk of the Western trade as the Erie Canal neared completion. Spurred into new action by this threat from New York, the towns made plans to build deep water canals into the hinterlands of the Potomac and James Rivers.

Baltimore originally backed the Chesapeake and Ohio Canal project along the Potomac, planning to construct a feeder canal into the city. However, when this plan was proven to be technically impossible, Baltimore withdrew its support.

The Chesapeake and Ohio and the James River Canal Companies woefully underestimated the expense and time involved in the construction of their canal systems. Still plagued by political controversy, the C & O Canal did not reach its objective, Cumberland, until 1850.

Although these two canals were never able to repay the tremendous amounts of money spent on their construction, they did have important impacts on the local economies. For example, the James River Canal in 1860 still transported three times as much cargo as the busiest railroad line. The main eastward moving cargoes were tobacco, wheat, flour, iron, coal, and limestone products. Westbound boats were loaded with manufactured goods, salt, sugar, coffee, fish, hardware, and fertilizer.

The advent of the Railraod Era in the 1830's was destined to force most of the canal companies out of business. The slowness of barge transportation and the fact that the canals were normally open only nine months a year, due to freezing, made the canals poor competitors to the railroads.

The only really successful canal system built in the Bay Region was the Chesapeake and Delaware Canal which connected the Chesapeake Bay and the Delaware River in the Upper Eastern Shore. Although the project was first proposed in 1661, the construction was not completed until 1829. It shortened the route from Baltimore to Philadelphia by 316 miles, to New York by 179 miles, and to European ports by about 100 miles. The canal is still in operation and it annually handles approximately 22,000 vessels of all types, making it one of the busiest waterways in the world.

THE RAILROAD ERA

Baltimore was probably fortunate in not being located on a river which reached very far inland. The city did not get caught-up in the canal building craze which swept the East Coast. Instead, the merchants and political leaders of the city studied alternative ways of improving transportation to and from the hinterland. The decision was made to build a railroad into the Ohio Valley. The Baltimore and Ohio Railroad began construction in 1827, becoming one of the first commercial railways in the country. By 1831, the Frederick to Baltimore portion of the line was completed. Wheat from Western Maryland, Pennsylvania, and Northern Virginia farms was readily transported, by rail, to the mills surrounding Baltimore. After milling, the flour was railroaded into the city, down to the waterfront and the waiting ships. In 1835, a branch line was completed to Washington, and in 1842 the B & O reached Cumberland, eight years before the C & O Canal. By the time the railroad had reached the Ohio River in 1852, Baltimore had become one of the major railroad ports in the country. In the Census of 1840, Baltimore was the second largest city in the country, behind New York.

Railroad construction in Virginia was stimulated by competition among Norfolk, Petersburg, and Richmond for control of the

profitable tobacco trade of the Roanoke River Valley, traditionally controlled by Norfolk. Petersburg made a bid during 1830-33 by constructing a rail line to Weldon, North Carolina. The venture was very successful. Richmond attempted to tap this business by building the Richmond and Petersburg Railroad, completed in 1838. Norfolk reentered the competition by constructing a line from Portsmouth to Weldon. Richmond ultimately gained the upper hand during the 1850's with the construction of the Richmond and Danville Railroad to Danville, Virginia, which carried almost as much tobacco during this time as the James River Canal.

Another line which linked Richmond with Charlottesville in 1850, was designed to capture part of the upper Shenandoah Valley trade which was then controlled by Baltimore. This line was later extended to Covington and became the busiest railroad in Virginia.

THE PRE-CIVIL WAR ERA

Improvements in transportation stimulated the further development of raw material industries throughout the Bay Region. A wheat boom, starting in the 1820's gave added impetus to the flour-milling business. The wheat farmers were able to realize great increases in productivity with the introduction of new soil conservation practices, first developed in Loudoun County, Virginia. Improvements in plow design and the invention of the mechanical reaper also helped increase productivity. By 1830, Maryland and Virginia were producing over one-half of the wheat raised in North America. Baltimore and Richmond vied for the title of the country's major flour-milling center. During the period 1834-50, Richmond's Gallego Mills were the world's largest.

Tobacco production and processing also continued to increase during this period. Richmond became the Nation's center for the tobacco processing industry. The city alone processed more tobacco than New York, the second-ranking state. One of every eleven Richmonders was employed in the industry. Petersburg's production was about half that of Richmond's. Approximately 90 percent of the production of the two cities was in chewing tobacco.

The use of slave labor spread from the plantations to the factories in Richmond and Petersburg. Some of the slaves were bought by the industrialists. But more often the plantation owners would rent the services of their slaves to the factory owners, especially during the winter months. The cotton-milling industry was expanded in these two cities as a source of employment for white laborers since most whites refused to work next to blacks in the existing factories.

Meanwhile, Baltimore was following a different course of economic and social development. The city's economy became much more diversified after the Revolution, becoming less dependent on tobacco for its well being. Commercial ties were established with the newly-formed South American Republics and China. The port became a major importer of guano from Peru for distribution from Baltimore to Southern plantations for use as a fertilizer. Coffee from Brazil and copper ore from Chile and Peru were also important in the South American trade. In sharp contrast to Richmond and Petersburg, Baltimore did not use slave labor to any significant extent in its factories, thus developing an important middle class of skilled workers.

By 1860, Baltimore was well established as the leading commercial and industrial center in the Bay Area as indicated by the population figures in Table 3-2. Norfolk had not grown as rapidly as the other cities in the region during this period because of its failure to establish strong commercial ties with the hinterland. By 1860, Washington, D.C. was only fourteenth in size but was beginning to show signs of awakening from its 60-year slumber, although United States Senators and Representatives often complained of cows, sheep, and goats roaming through the city's unimproved streets.

The figures in Table 3-2 also reflect the trend toward urbanization during the period between 1790 and 1860. This is especially true in the northern section of the Bay Region. The urban population of Virginia increased approximately 940 percent during this period, while Maryland's city dwellers increased over 1,700 percent. However, the proportion of Virginia's population considered urban remained a relatively low 9.5 percent. In contrast, Maryland's urban dwellers comprised about 34.0 percent of the total population. The northern part of the Bay Region, and the Baltimore area in particular, was clearly becoming a vital part of the developing commercial-industrial complex along the Northeastern coast of the United States. This was the area which was later to become known as the "megalopolis."

TABLE 3-2
POPULATION OF MAJOR STUDY AREA CITIES
1790 AND 1860

City	1790	1860
Baltimore	13,503	212,418
Alexandria	2,748	12,654
Richmond	3,761	37,910
Petersburg	2,828	18,266
Norfolk	2,459	14,620
Washington	--	75,080
Wilmington, Delaware	--	21,258

THE CIVIL WAR YEARS

General William Tecumseh Sherman, who perhaps saw more clearly into the future than any of his contemporaries, wrote at the onset of the Civil War that "in all history no nation of mere agriculturists ever made successful war against a nation of mechanics . . ."(1) This prophecy of Sherman's became self-fulfilling as the War progressed, for business and industrial expansion in the North kept pace with the increasing victories of the Union Army.

The basic outline of industrial development in the North had of course been drawn before 1861: railroad construction, exploitation of vast coal, timber, and other mineral resources, factories and corporations becoming larger and larger in size and influence, mechanization of agriculture and industry, and so forth; however, the war between the states gave this whole movement a tremendous push. The need to supply the Union Army with war material, the removal of an obstructionist Congress dominated by Southerners who blocked approvals for internal improvements and tariffs, the money to be made in

waging a war, and the need to replace manpower with mechanical power all contributed to the drive toward industrialization, mechanization, and growth in the North.

Farmers purchased some 250,000 reapers during the War. Sewing machines had just been invented and already some 100,000 people were engaged in making ready to wear clothing. Over 200,000 pounds of wool a year were being consumed by the textile industry. Up to 1863 the Union had been forced to import munitions; from this time onward the Union supplied her own ordnance and even began to export war material to Europe. Philadelphia, alone, erected 57 new factories in 1863. All this activity brought fortunes into being. There were now scores of millionaires in America where a few years before there had been only a handful.

Secession in Baltimore had led to a severe internal political crisis because many of the residents held strong Southern sympathies. After a mob fired upon a Northern regiment passing through the city, Baltimore was occupied by Union forces in April 1861. As a result of the occupation, the city's railroad links with the rest of the country were severed. The Union was thus forced to use the Chesapeake and Delaware Canal at the northern end of the Bay to move troops and supplies to Washington.

"It has often been stated that the existence of the canal in 1861 saved Washington from capture."(2) The C & D Canal was employed as a transportation route to bypass Baltimore and ferry ordnance to Annapolis where the material was sent on by rail to Washington. So important was the Canal to the Union war effort that it was placed under military protection at the outbreak of hostilities.

Both politically and strategically, the waterways had a great influence over what took place in the Bay Region during the War. The Potomac River divided the Union from the Confederacy. The Chesapeake Bay isolated Virginia's Eastern Shore and tidewater rivers and streams extended Federal naval power far inland, protecting Washington and threatening Richmond. The waterways severely restricted movement of southern land forces. Yet numerous skirmishes, particularly on the Potomac, either successfully cut-off or threatened to cut-off Washington, D.C.'s commercial shipping and trade.

The relative isolation of Baltimore at first created economic depression. Baltimore businessmen, though, soon wrested enough war contracts from the Lincoln administration to start up industry again. Iron works and mills in and around the city made fortunes supplying the Union Army soon after railroad

lines were reestablished, and the shipbuilding capacity of the city greatly expanded over this period.

The Civil War was having a tremendous effect on the growth of Washington. This city which was previously little more than a sleepy provincial town, now became the command center for the largest armed conflict during the nineteeth century. Washington filled overnight with hundreds of thousands of soldiers and their dependents, runaway slaves, and war speculators and profiteers.

While the cities of the North were enjoying a war induced boom, the cities south of the Potomac were also undergoing change. Richmond with its 38,000 residents in 1860 was the most important city in the South Atlantic region. Her factories played an especially important part in the Confederacy's war effort. The Tredegar Iron Works cast practically all of the cannons and a large portion of the rails used in the South. Shoe and clothing factories were established in Richmond during the war, and the city's mills ground a large share of the total flour produced. Petersburg, south of Richmond, also made a significant contribution to the Confederacy by manufacturing a large quantity of gunpowder.

The Southern war effort, however, was almost always hampered by a lack of an adequate transportation network and a chaotic system of finance. The result was continued breakdowns in production caused by lack of raw materials, and of course, destruction of productive machinery by war itself. Inflation was running rampant, a barrel of flour that cost $25 in 1861 sold for $1,000 in 1865. Unable to finance itself, running into shortages, damaged by war, the Southern economy toward the end of hostilities found itself living off its accumulated economic and social surpluses. Moreover, at war's end, large sections of Richmond and Petersburg had been burned down, virtually all of their railroads and bridges were destroyed, and the livestock and crops of the region had been stolen or burned off. "Norfolk, had escaped the complete destruction which had been her lot in the Revolution, but her commerce was at a low ebb, her tributary railways broken, her finances deranged, her streets out of repair, her citizens impoverished."(3)

RISE OF METROPOLIS

Along with industrialization in the 19th Century came the ascendancy of technology and finance. Ultimately, these factors combined to cause the rise of the modern metropolis. Industry, because of the economies of scale provided by technology, needed several developments outside the working place in order to insure industry's success: a large labor force to supply workers to the factories and to keep wages down, a huge centralized market to consume the goods rapidly produced by assembly line techniques, and the elimination of individual tastes so that products could be standardized. Cities, by concentrating both the labor and product market, cheapening the price of labor, and standardizing tastes, fulfilled industry's needs. Economic historian N. S. B. Gras has aptly described the modern economy as "metropolitan economy" because of the crucial role played by the large cities in organizing production and distribution. (4)

Finance also marched in step with the new technology. Industries and railroads could no longer be capitalized by individuals in this new technological era; projects had to have bank financing for their realization. The Civil War had already straightened out a lot of irrational bank practices, such as the large amount of currency issued by the banks themselves, preparing the banks to move into the new arena of big industries and big cities. Banks in turn had to have large numbers of depositors, and banks themselves added to the concentration by forcing other financial institutions and corporation headquarters to be located near them.

Industrialization and the resultant growth of the metropolis came about, in large part, because of the hinterlands which provided much of industry's raw materials. The hinterlands, on the other hand, relied on the city for its finished products. Although there were some mutual points of interest between the metropolis and the hinterland, between Baltimore, Richmond, and Norfolk and the areas these cities traded with, the overriding point was one of antagonism. (Washington being almost entirely a service-oriented city from its very beginning becomes a slight exception to what follows.) The metropolis is the creditor, the hinterland is the debtor. The former produces manufactured goods and wants high tariffs, the latter producing raw materials desires low tariffs.

The hinterland dependent on the transportation system monopolized by the metropolis requires inexpensive shipping. Cities want to buy raw materials cheaply and sell manufactured goods dearly. Both areas compete for a labor supply. By the last quarter of the nineteenth century all these factors were tipping in favor of the metropolis. Cities, in short, were drawing off the hinterland's capital and labor to the metropolis' aggrandizement.

This struggle finally reached its culmination in the railroad and antitrust regulations of the 1880's and 1890's. The hinterland, ultimately, was the loser; legislation proved ineffective in stopping the growth of industry and metropolis. The city stood supreme by the turn of this century, growth would continue to go unrestrained.

The effect on regional agriculture of this city-rural conflict was to further commercial farming practices. As the railroads and cities expanded and deepened the market and as metropolitan development absorbed more and more farmland, farmers in the area more intensely pursued those lines of production they had a greater advantage in. Jean Gottmann's simple rule of thumb that farmers "will continue to grow more food on less land while the cities grow in size and population"(5) is a good method to assess future agricultural trends in the Bay Region.

At this juncture, it will be wise to mention that industrialization did not supersede mercantilism entirely. Trade still continued to play a very important role in the cities, especially in Baltimore and Norfolk. Very few major cities in the United States are not port cities.

Establishment of a hinterland which could be controlled was a very important development to the port cities of the Chesapeake Bay. For the size of the hinterland was a crucial factor in determining how large the city might grow; the hinterland provided raw materials for export and a market for imported and domestically produced goods.

Baltimore was especially favored in this respect since the city sat near the mouth of the Susquehanna River draining the rich Susquehanna Basin. Baltimore also was near the fertile Great Valley of Pennsylvania and Virginia which led to the Ohio River Basin. When its trade with these areas was challenged by Philadelphia commercial interests with their turnpike and canal construction, Baltimore financiers built the Baltimore and Ohio Railroad into the Ohio Valley.

John B. Garrett, president of the Baltimore and Ohio, recognized the strong connection between the grain producing heartland of America and his home city. After he was elected to the

presidency in 1858, he double-tracked the line into the Middle West and obtained good rail connections with St. Louis and Chicago. "I have always considered Baltimore as a natural outlet of the vast northwestern trade now being developed,"(6) said the rival railroader Jay Cook of the Northern Pacific as if in affirmation of Garrett's move.

Garrett heavily committed his line to the grain export trade, and he "gleefully predicted during 1873 and 1874 that his commitment to farm exports would . . . transform Baltimore into the Liverpool of America."(7) Garrett was also interested in establishing trade links between Baltimore and South America, and this continent played an especially large role in the development of the port of Baltimore.

Baltimore was closer to South America than any other major port in the northeast. The port's locational advantage allowed it to capture most of the trade along South America's eastern coast. Brazil's trade in particular was strongly tied to the port of Baltimore; almost 97% of the port's South American shipments went to Brazil from 1812 to 1893. Brazil in turn supplied coffee, and coffee "was the most permanent, fundamental, and successful element in Baltimore's import trade."(8)

Another important ingredient in the expansion of the port was immigration. North German Lloyd Steamship Company opened a passage between Bremen, Germany, and Baltimore in 1868, and from this time onward most of the German immigrants entering the United States came through Baltimore.

Further to the south, Norfolk was likewise being transformed. Consolidation of many small railroads into what finally became known as the Norfolk and Western Railroad allowed commerce which previously went to Richmond to be channeled toward Norfolk. Products of the Far South, southern Virginia, and, most importantly for the port's long range growth, the coal of Virginia, West Virginia, and Kentucky came to Norfolk in ever increasing volume.

After it reached the Pocahontas coal fields of southwestern Virginia, the Norfolk and Western pushed branch lines up all narrow mountain valleys where coal could be found. This railroad then extended its trackage into the West Virginia and Kentucky coal regions and thereby secured a continuous coal supply for shipment to Norfolk. A great variety of products had caused the port's expansion, but from 1885 to the present coal was the leading item in Norfolk's export trade. Norfolk had achieved its goal of becoming the "Newcastle of America" as Baltimore was striving to become the "Liverpool of America."

The port of Norfolk, by the turn of this century, stood supreme as a regional commercial center. "Norfolk now looked back upon the antebellum days when she was struggling vainly to secure railway connections with the south and west, as an unpleasant, hazy memory. With great railway systems fighting to reach her harbor, with the Fall Line towns eliminated as rival ports, with the products of Virginia, West Virginia, North Carolina, Tennessee, and the Far South pouring into her lap, she realized that the long expected prosperity was at hand."(9) The value of exports had increased from $728,000 in 1871 to $19.8 million in 1882, a twenty-fold expansion in just a little over ten years.

THE EXPANDING METROPOLIS

There were certain events taking place in a number of Bay cities whch were transforming them into growing, thriving metropolises. For example, after the Civil War, Baltimore, Washington, Richmond, and Norfolk were attracting large numbers of rural and foreign immigrants as shown by the population increases reflected in Table 3-3. Such an influx provided a ready source of labor--a precious commodity for an expanding industrial nation.

TABLE 3-3
GROWTH OF BAY AREA URBAN POPULATION
1860 - 1900

	1860	1900	% Change 1860-1900
Baltimore	212,418	508,957	240
Washington, D.C.	75,080	278,718	371
Richmond	37,910	85,028	224
Norfolk	14,620	46,624	319

Another factor was to have a tremendous effect on growth. In 1887, the Maryland Steel Company began building a mill at Sparrows Point, a neck of land jutting out into the Bay east of Baltimore City. Four blast furnaces and other facilities were constructed; and by 1890, Maryland was the ninth largest steel producing state in the country whereas previously she had been thirteenth. The history of Sparrows Point goes back to 1867 when the Pennsylvania Steel Company began producing Bessemer rails at their Steelton, Pennsylvania, mill. Low phosphorus iron ore for the Bessemer process at first came from Pennsylvania and New Jersey, but these deposits were inadequate to meet the increasing demand. Pennsylvania Steel Company in 1882 bought extensive iron ore reserves in Cuba and soon after looked around for a tidewater site to build a mill which would minimize haulage distances between the foreign iron ore and the metallurgical coal of Pennsylvania and West Virginia. The site selected was the Baltimore area. Pennsylvania Steel Company in the meanwhile had reorganized itself as the Maryland Steel Company. (In 1916, Bethlehem Steel Company acquired all the plant and equipment of the former Pennsylvania Steel Company.)

The Civil War, so devastating to the South, was to ultimately benefit the Region in certain respects. The war-caused poverty was proving attractive to outside industrial investments. The Philadelphia Telegraph pointed out to its readers that in the South "land, labor, fuel, water power, and building facilities were cheap. The way to clear and large profits is open."(10) Railroads were among the first recipients of northern and foreign capital, some $150 million being invested in southern railways from 1879 to 1881. The Richmond and Danville Railroad, once a small line, now spurred on by northern capital had, by consolidating smaller lines, 3,125 miles of trackage in 1890. The Richmond and Danville was in turn controlled by the Richmond and West Point Terminal Company which in 1890 had 8,558 miles of tracks. A portion of northern capital also went into the cotton textile industry. Northern investors were exporting technologies into the South which had entered into a decline in the North. Cotton textiles had previously been New England's leading industry, textiles would now hold that position in many areas of the South.

Southern railroad and manufacturing expansion, as noted, was chiefly sponsored and financed by northern and foreign interests. Seventeen Terminal Company directors, for example, out of a total of twenty were northerners. Economic development, however, was not entirely induced from the outside, for a newly emerging, entrepreneurial southern middle-class was coming to the fore. "They are taking the leading place not only in our political and financial affairs, but are pressing to the

front for social recognition" reported the Richmond Whig and Advertiser on April 4, 1876 . . . "Our provincial characteristics are fast disappearing . . . We are no longer a village but a city."(11)

Tobacco processing had a long history of development in Virginia and its capital city. Previously the trade had been carried out largely on a handicraft basis, but by the end of the 19th century it was so mechanized that the Census of Manufacturers would state in 1900 that "everything from the stemming of the leaf to the payment of wages to the employees of the factory is done by machinery." Cigarette smoking was becoming popular at this time, U. S. cigarette production having increased from 20 million in 1870 to 3 billion in 1890. A young Virginian in the meanwhile patented a cigarette making machine in 1880 making it possible for the industry to meet rising demand. Other patents for packaging and labeling machinery, by southerners, were soon forthcoming.

Urban areas were indeed undergoing rapid change. The living conditions were changing as well. Unfortunately, the guiding philosophy by which the expanding cities were sometimes laid out was mechanistic or utilitarian. Social and physiological requirements of people were, in some cases, almost entirely forgotten or disregarded. The thoughtful and imaginative planning of the early planners-architects-engineers was destroyed in the modern era. Only vestiges of their concepts can still be seen today in the original parts of the Bay cities.

Ironically, the order and harmony sought through the scientific and mathematical detachment of the utilitarians led in many cases to human and environmental chaos. For much urban growth was to be planless.

Along the shoreline of Baltimore and Norfolk and the river front of Richmond and the other cities of the Bay (Washington being an exception to a degree) large factories and their accompanying railroad lines, marshalling yards, and slums grew. Factories preempted development along the cities' shoreline or flood plain because this area contained flat, broad expanses of land, railroad lines, and an ample supply of water which industry needed for cooling, cleaning, and processing purposes. "Above all the river . . . had still another important function; it was the cheapest and most convenient dumping ground for all soluable or suspendible forms of waste. The transformation of the rivers into open sewers was a characteristic feat of the new economy. Result: poisoning of aquatic life; destruction of food; befouling of water so it was unfit to bathe in."(12) Some of the Bay tributaries became increasingly polluted from the factories located along the shore.

Intensifying the problem was the urban pattern that the factories created. When population and industry were dispersed in a nascent industrial society, the purifying effects of air and water could remove most of the pollutants caused by people and factories. Concentration overtaxed the ability of the elements to cleanse the environment, and pollution became a major ingredient of urban life.

There were, of course, great improvements in city services. The abuses of industrialization called into being groups which tried to correct some of the most glaring errors. People turned to a system of "municipal socialism" to improve the sanitary facilities of the cities. Sewage mains and treatment plants, aqueducts, pumping stations, and so forth were extended and improved. The effects of these municipally owned facilities were often immediate and direct. In Norfolk, for instance, "a contagious disease hospital was established, war was declared on mosquitoes and flies, school chidlren were inspected regularly, dental clinics were established."(13) The appalling high infant mortality rate, for one, began to level off and decline.

THE BAY REGION IN THE TWENTIETH CENTURY

In 1900, half the population of the Chesapeake Bay Region was urban. Urbanization was still more pronounced in the northern portion of the Region than within the area below the Potomac. By the eve of World War II, two-thirds of the entire Chesapeake Bay Region's population was urbanized, and every subregion had at least half its inhabitants residing in cities. The Baltimore Subregion which previously contained 50% of the entire Region's population, in 1940 contained some 40% of the total. The Washington Subregion whose population doubled from 1900 to 1940 experienced the largest absolute change, but the cities south of the Potomac had undergone the greatest relative population growth. The first four decades of the twentieth century were a period of city building in the South, and fueling this expansion was the highest sectional birth rate in the country.

This enormous population pressure on available rural resources, which were not large to begin with, either forced millions out of the South entirely or into the cities of the South. "Over the whole area," W. J. Cash writes of southern city

construction, "hung the incessant machine-gun rattle of riveting hammers; in many places the streets were like those of a rebuilding war area, with the yawning walls of old buildings coming down and of new buildings going up; for solid miles through Dixie the old fashionable residential districts of the years from 1880 to 1920 were being riddled by office buidlings, store fronts, filling stations and the like . . ."(14)

Richmond and Norfolk Subregions which had been 35% and 32% urbanized, respectively, in 1900 were by 1940 51% and 59% urbanized. The causes of urbanization below the Potomac were quite different from the causes which lead to city building above the river. Washington, of course, grew in direct relation to the increasing role of the Federal Government. Baltimore's growth coincided with the expanding size of its manufacturing and port activities. Richmond and Norfolk also had manufacturing industries, but in these cities, services, government and especially the military in the Norfolk area created the employment opportunities. Table 3-4 below shows the amount of value added by manufacturing in 1927 by the cities of Baltimore, Richmond, and Norfolk; clearly, the preponderance of manufacturing was still above the Potomac.

TABLE 3-4
VALUE ADDED BY MANUFACTURING

City	Value Added by Manufacturing, 1927 (in millions of dollars)
Baltimore	$619
Richmond	220
Norfolk	29

The cities below the Potomac in a sense "leap-frogged economic development. They moved into the services, government, and military sectors before the industrial sector had fully developed itself. Services and government would later play a significant role in the Baltimore job market, but the cities below the Potomac, and of course Washington, arrived at this point first. The military, moreover, in the past twenty-five years of war and preparation for war would spur on the urban economy. "In the Norfolk-Portsmouth area, 53% of the income received by

individuals is derived from Federal Government employment. This is a higher proportion than for any large metropolitan area in the country."(15) A significant portion of this income in Norfolk-Portsmouth comes from working in defense industries.

The percentage distribution of personal earnings by industry for metropolitan areas within the Chesapeake Bay Area is shown in Table 3-5.

Chesapeake Bay's economy as well as the national economy had largely completed the process of city building and industrial development in the time between the two world wars. Industrialization and its effects were neither sudden nor dramatic. An incubation period was first needed before a labor force familiar with the seasonal pace of agriculture would submit to the discipline, regimentation, and the very changes in life style demanded by industry. Industrialization, writes Ellul, "resulted not from the exploitation of coal, but rather from a change of attitude on the part of the whole civilization."(16)

POPULATION AND TECHNOLOGY IN THE TWENTIETH CENTURY

The Chesapeake Bay Region's population and economy is today still very much urban based. Most economic activity and the majority of people reside within metropolitan areas. In 1969, $28.3 billion of total personal income accrued to all Bay residents, $26.1 billion of which went to SMSA dwellers. The current Study Area population totals approximately 7.9 million, of which 7 million live in an urban environment. The Wilmington SMSA has 0.5 million, Baltimore 2 million, 3 million in Washington, another 0.5 million in Richmond, and in Hampton Roads (Newport News-Hampton and Norfolk-Portsmouth) reside 1 million. The rest of the population, 0.9 million, is thinly scattered over the Eastern Shore and on the large peninsulas of the Western Shore. Population and the economy are overwhelmingly urban; yet, over one hundred years ago, these sectors were rural in character. This relatively swift transformation of the Region, and the Nation, constitutes one of the greatest records of city building in history.

TABLE 3-5
PERCENTAGE DISTRIBUTION OF PERSONAL EARNINGS BY BROAD INDUSTRIAL SOURCES
FOR METROPOLITAN AREAS IN THE CHESAPEAKE BAY AREA, 1971[1]

	Government	Manufacturing	Transportation, Communications, & Public Utilities	Wholesale & Retail Trade	Finance, Insurance & Real Estate	Services	Farm, Mining, Contract Construction	Total
Sum of all SMSA areas in Nation	17.6	27.1	7.6	17.2	6.2	16.3	8.0	100.0
Baltimore, Md.	22.7	24.4	8.1	17.4	5.3	14.7	7.4	100.0
Washington, D.C.-Md.-Va.	47.5	3.7	5.4	12.6	4.7	19.6	6.5	100.0
Richmond, Va.	19.6	22.6	8.6	19.1	8.6	14.2	7.3	100.0
Newport News-Hampton, Va.	44.5	25.1	3.3	9.6	2.4	10.2	4.9	100.0
Norfolk-Portsmouth, Va.	49.8	7.3	6.4	14.6	3.5	12.0	6.4	100.0
Petersburg-Colonial Heights, Va.	44.6	29.6	3.3	9.3	1.5	7.5	4.2	100.0
Wilmington, Del.-Md.-N.J.	13.4	43.6	5.1	12.3	4.0	12.1	9.5	100.0

[1]Source: U.S. Water Resources Council. 1972 OBERS Projections of Economic Activity in the U.S., Series E, Vol. 5, 1974.

The U. S. and Chesapeake Bay Region labor force underwent significant change in composition during this century as it had over the last. About 70% of the jobs which are held today did not even exist fifty years ago; 70% of the jobs that existed in 1900 have since been eliminated. To call what has happened a "job revolution" or "post-industrial" era as the nation and region shifted from the production of goods to the creation of services, from "blue" to "white" collar, is somewhat premature. Industrial employment (construction, manufacturing, public utilities, transportation, and communications) has remained fairly stable over the past 70 years. What did occur in the period from 1900 to 1970 was a sharp loss in agricultural jobs and a rise in service employment which radically altered the labor structure.

In 1900, employment was more or less balanced between the three employment sectors: agriculture, industry, and services. Seventy years later approximately two out of every three jobs were accounted for by services, and regionally, the service employment share is even higher than nationally. Agriculture in the meantime has almost disappeared as a significant employer. Why these differences between agriculture, industry, and service employment--the declines in the first, the steadiness of the second, and the increases of the last sector? Both industry and agriculture, for example, were shaped by the same technical forces of mechanization and automation. Then why were jobs eliminated on the farm but not in industry? Demand schedules provide part of the answer. That is, while population and real income increased over the last seven decades, the demand for agricultural products did not go up proportionally. Grain tonnage hardly doubled in this century, but population almost tripled and real per capita income rose five times.

The opposite was true for manufactured articles. Sales of automobiles, homes, factories, and so forth more than doubled, tripled, and quadrupled since 1900. Individuals, businesses, and government chose to spend their incomes on consumer durables and non-durables, capital goods, and social overhead rather than for more food and fiber. Per capita calorie intake has, in fact, fallen since 1900 and so has the use of natural fibers.

Secondly, agriculture was and is a much more productive sector than industry. Industrialization itself was dependent upon a rise in output from the land. Even in the modern era, from 1947 to 1970, output per man hour in agriculture increased by 287% as compared to 97% for manufacturing. The use of machinery on the farm resulted in a huge job loss. From 1900 to 1970, agricultural employment, as a percentage of total

employment, fell by 34%, industry only declined by 3%, and these decreases of 37% were shifted to the service sector.

Service employment has come to dominate both the U.S. and Chesapeake Bay Region's labor market. The number of people employed within retail and wholesale trade, finance, insurance, real estate, services, and government in the nation increased by 20.1 million from 1950 to 1970. Over the same period, 5.4 million additional workers (including white collar) entered the construction, manufacturing, utilities, communication, and transportation sector. Government employment both nationally and regionally has been an especially rapidly growing job area. In 1970, over 475,000 people were employed by the public administration sector (government) in the Estuary Area, an increase of over 216 percent since 1940, as shown in Table 3-16. U.S. employment in this sector during the same period increased 183 percent. One out of every seven workers in the Bay Region is currently employed by Federal, State, or local governments as opposed to one in nineteen, nationally.

TABLE 3-6
FEDERAL, STATE, AND LOCAL GOVERNMENT
EMPLOYMENT FOR THE ESTUARY AREA
AND THE UNITED STATES, 1940 - 1970*

YEAR	ESTUARY EMPLOYMENT	U.S. EMPLOYMENT	ESTUARY EMPLOYMENT AS % OF U.S. TOTAL
1940	150,600	1,484,600	10.1%
1950	278,300	2,514,400	11.1%
1960	349,200	3,202,900	10.9%
1970	475,400	4,201,700	11.3%

*Sources: 1) Office of Business Economics, U.S. Department of Commerce. Growth Patterns in Employment By County, 1940-1950 and 1950-1960. Washington, D.C.: GPO, 1965. 2) Bureau of the Census, U.S. Department of Commerce. General Social and Economic Characteristics, 1970 Census of Population. Washington, D.C.: GPO, 1972.

Another factor causing service employment increases has been the transformation of housework. This development, in turn, has lead to the greatest change in the U.S. labor market coequal to that of service employment itself; namely, the entry

of large numbers of women into the labor force. In this century many activities once reserved for the home, and uncounted as national income, such as cooking, cleaning, clothes making, child rearing, care of the aged, and so on have been assumed by the service industry. As a result of the public and private sectors performing household tasks, women have been able to enter the labor market.

In 1920, women constituted 20% of the total U. S. labor force; presently, they make up 40%, and in the near future they will probably account for half the total as they already do in the Washington, D. C. SMSA.

GROWTH OF SUBURBS

While the railroad enabled the hinterland to be tapped and helped shape the 19th Century city, it was to be automotive power which forged the cities in the 20th Century. No longer would the size of the city be restricted to that distance which could be traveled in about one hour. Cities were spreading out and around their peripheries suburbs were being built.

Rising real incomes, deteriorating central city housing, and Federal home loans also greatly expanded the suburbs. In addition, the invention of alternating current, as opposed to Edison's direct current which limited electric transmission of from 1 to 2 miles, permitted extension of electric power to meet suburban consumer demand. After the streetcar and public mass transit's demise in the 1930's, automobiles became the favored means of suburban transportation.

Motor vehicles produced 0.1 million horsepower in the U. S. at the beginning of the twentieth century. By 1970, this figure had increased to 19,325 million horsepower, over half of which was employed in moving people from their homes to their jobs. The metropolitan regions, as the example in Table 3-7 shows, are heavily weighted toward automobile transportation.

In the Baltimore SMSA, 820,000 people go to work each day. Of that number, 107,000, or 13%, use public transportation; 624,000, or 76%, get to their jobs with automobiles. The urban pattern that the automobile has established, moreover, especially in the suburbs, feeds on and nourishes the car's reason

TABLE 3-7
MEANS OF TRANSPORTATION,
BALTIMORE, SMSA, 1970

	All Workers	Auto	%	Public Transportation	%	Walk	%
Baltimore City	344,801	213,515	62	88,552	26	30,198	9
Counties							
Anne Arundel	121,742	105,293	86	2,953	2	8,398	7
Baltimore	256,033	222,244	87	14,085	6	9,696	4
Carroll	27,030	22,407	83	1,530	5	1,578	6
Harford	46,343	39,168	85	365	1	3,772	8
Howard	23,648	20,920	88	465	2	651	3
TOTAL	819,597	623,547	76	106,878	13	54,293	7

for being. The isolated shopping center, the isolated industrial park, and the low population density make mobility with one of the least efficient modes of transportation a necessity. There exists the potential, nonetheless, in the Baltimore SMSA and probably within all SMSA's to develop a transportation system which can move commuters cheaply, safely, and swiftly. A system which integrates buses and trains with automobiles will reduce the daily traffic crunch and the accompanying environmental disruption.

Streetcars, public transit, and automobiles gave suburbanites a means of transportation, but it was only in the post-World War II era that suburbs assumed the importance they now have. The war provided employment, forced savings, and price controls which significantly raised real incomes. This in combination with lack of central city housing and Federal subsidies for suburban housing made for sharp increases in suburban populations over the last 30 years. Table 3-8 below shows population growth of the center cities versus that of the SMSA as a whole.

"Two cannons of the new suburbs," writes Boorstin, "were: Romantize and Stratify."(17) Suburbs were frequently laid out to imitate the design of rustic disorder--winding roads, homes set off at irregular distances, and of different designs, split rail fences, plastic farm animals on the lawns, in short, the pastoral ideal in an industrial world, all made possible by a massive intrusion of energy. Stratification meant homogeneous population based on income, religious, and racial composition.

TABLE 3-8
POPULATION GROWTH OF THE SMSA
AND CENTER CITIES
1940 - 1970
(In Thousands)

	1940	1950	1960	1970	% Growth 1940 - 70
Baltimore City	859	950	939	906	5
Rest of Baltimore SMSA*	276	462	479	674	144
Washington	663	802	764	757	14
Rest of Washington SMSA**	345	707	1,313	2,105	510
Richmond	193	230	220	250	29
Rest of Richmond SMSA***	95	126	226	283	198
Norfolk	144	214	305	308	114
Rest of Norfolk SMSA****	66	158	159	261	295

*Includes: Baltimore, Anne Arundel, Howard, Harford, and Carroll Counties.
**Includes: Montgomery and Prince Georges Counties, Maryland; and Loudoun, Prince William, and Arlington Counties and Alexandria and Fairfax Cities, Virginia.
***Includes: Hanover, Henrico, and Chesterfield Counties.
****Includes: Chesapeake and Virginia Beach Cities.

After World War II, as noted, the central cities' economies shifted from the production of goods to the creation of services, from blue to white collar. Industry, however, had traditionally been the employer of the unskilled, and with the stagnation of industrial employment, incomes and job opportunities began to drop for urban residents. The second industrial revolution was having a marked effect upon the standard of living of the central cities' population. In Baltimore City, median family income in 1970 was $8,815. For the five surrounding suburban counties --Anne Arundel, Baltimore, Carroll, Harford, and Howard-- median family income equalled $11,771. Baltimore central city median family income was only 75% of that found in the suburbs. This represents a 9% drop from the 84% ratio in 1960. Nationally in 1970, the ratio between city and suburb income was 83%.

Virginia's cities and suburbs generally followed the same trend. The cities' population had higher incomes than the surrounding suburban areas before World War II, but in the post-war era, the situation changed.

Although population in the central cities started to decline, people did not move too far out into the hinterland. Economic and social communities were not formed since economic control still remained in the downtown areas of the cities. The jobs, particularly service employment, continued to be found in the cities. Paradoxically much of the maufacturing employment which was started in suburbia is filled by residents of the center cities who because of economic and racial barriers are unable to relocate near their places of work. Thus we have the phenomena of white-collar workers streaming into the city during morning rush hours while blue-collar workers are moving in a counter direction. This situation then reverses itself in the evening.

The rapid expansion of the metropolitan area also affected the surrounding rural area. In the areas between suburbias, the rural parts of Maryland and Virginia, economic development has largely stagnated. Many of these rural communities had more population 100 years ago than they do today. The rural people have, in short, left the farms and migrated to where employment could be obtained, especially the young adults. Whether or not these areas will ever revive is still problematical.

The economic history of the Bay Area is not too unlike that of many other urban areas throughout the world. The developments of man and his accompanying degradations of the environment are a tale told too often in history. It is hoped that this chapter has presented a brief picture of how and why the Bay Area developed and the economic and social framework this water resource must address.

FOOTNOTES

1. Cited by Bruce Catton in Glory Road. (New York: Pocketbook, 1964), pp. 255-256.

2. Ralph D. Gray, The National Waterway: A History of the Chesapeake and Delaware Canal, 1769 - 1965. (Urbana, Ill.: University of Illinois Press, 1967), p. 144.

3. Thomas J. Wertenbaker, Norfolk; Historical Southern Port. (Durham, N.C. Duke University Press, 1931), p. 271.

4. N. S. B. Gras, An Introduction to Economic History. (New York: Harper & Bros., 1922).

5. Jean Gottmann, Megalopolis: The Urbanized Northeastern Seaboard of the United States. (Cambridge, Massachusetts: The M.I.T. Press, 1961), p. 333.

6. William A. Williams, The Roots of the Modern American Empire. (New York: Random House, 1969), p. 125.

7. Ibid., p. 196.

8. T. Courtenay J. Whedbee, The Port of Baltimore in the Making, 1828 to 1887. (Baltimore: Privately printed, 1953), p. 50.

9. Wertenbaker, op. cit., pp. 307-308.

10. C. Vann Woodward, Origins of the New South 1877 - 1913. (Baton Rouge, Louisiana: Louisiana State University Press, 1971), p. 114.

11. Ibid., p. 151.

12. Lewis Mumford, The City in History. (New York: Harcourt, Brace, and World, Inc., 1961), p. 459.

13. Wertenbaker, op. cit., p. 359.

14. W. J. Cash, The Mind of the South. (New York: Alfred A. Knopf, 1941), p. 262.

15. John J. Boland, "The Fate of the Chesapeake Bay: Socio-Economic Aspects," Journal of the Washington Academy of Sciences, Vol. 62, No. 2. (June, 1972), p. 204.

16. Jacques Ellul, The Technological Society. (New York: Vantage Books, 1964), p. 44.

17. Daniel Boorstin, The Americans: The Democratic Experience. (New York: Random House, 1973), p. 267

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CHAPTER III

POPULATION CHARACTERISTICS

POPULATION MOVEMENTS

HISTORICAL TRENDS

As indicated in the preceding section, the Chesapeake Bay Region was one of the primary growth centers of the New World during Colonial times. However, after the decline of the tobacco industry and the movement westward of many thousands of Americans during the 1800's, population growth in the Region began to lag. It was not until World War II that the Region began, once again, to increase its share of the National population. This can be attributed to a large migration of workers and their families into the Area in response to new employment opportunities induced by greatly increased Federal spending during and after World War II. This was especially true in the Washington, D. C. and Norfolk-Portsmouth, Virginia Subregion. Most of these new jobs were in the Federal government or in Defense-related Manufacturing. For example, Federal employment increased by about 130 percent Nationally between 1940 and 1960 with the Estuary Area experiencing a larger share of this increase. Table 3-9 presents historical population figures for the total Estuary Area and for each Economic Subregion.

The intra-regional movement of people in the Estuary Area during the one hundred years between 1860 and 1960 reflected the National trend toward urbanization. The proportion of the

TABLE 3-9
POPULATION DATA BY ECONOMIC SUBREGION,
CHESAPEAKE BAY ESTUARY AREA,
AND THE UNITED STATES FOR SELECTED YEARS 1860-1970

Area	1860	1900	1940	1950	1960	1970
Baltimore, Md. Subregion	556,892	1,010,824	1,481,179	1,784,776	2,185,354	2,481,402
Absolute Change		+453,932	+470,335	+303,597	+400,578	+296,048
Percent Change		+81.5	+46.5	+20.5	+22.4	+13.5
Washington, D.C. Subregion	244,935	479,604	1,086,262	1,615,164	2,215,500	3,040,371
Absolute Change		+234,669	+606,658	+528,902	+600,336	+824,871
Percent Change		+95.8	+126.5	+48.7	+37.2	+37.2
Richmond, Va. Subregion	223,566	295,060	437,103	516,452	627,905	728,946
Absolute Change		+71,494	+142,043	+79,349	+111,453	+101,041
Percent Change		+32.0	+48.1	+18.2	+21.6	+16.1
Norfolk-Portsmouth, Va., Subregion	127,355	277,705	467,229	729,080	941,294	1,121,856
Absolute Change		+150,350	+189,524	+261,851	+212,214	+180.562
Percent Change		+118.1	+68.2	+56.0	+29.1	+19.2
Wilmington, Del. SMSA	101,117	159,830	248,243	301,743	414,565	499,493
Absolute Change		+58,713	+88,413	+53,500	+112,822	+84,928
Percent Change		+58.1	+55.3	+21.6	+37.4	+20.5
Chesapeake Bay Estuary Area	1,253,865	2,223,023	3,720,016	4,947,215	6,384,618	7,872,068
Absolute Change		+969,158	+1,496,993	+1,227,199	+1,437,403	+1,480,570
Percent Change		+77.3	+67.3	+33.0	+29.1	+23.2
United States Total (in thousands)	31,513	76,094	132,165	151,326	179,323	203,212
		+44,581	+56,071	+19,161	+27,997	+23,889
		+141.5	+73.7	+14.5	+18.5	+13.3

*Source: U.S. Census Data

population considered urban (persons living in places with at least 2,500 inhabitants) increased from 39.0 percent in 1860 to 76.8 percent in 1960. These were well above the National figures of 19.8 and 69.9 for the same years. During the period of high growth between 1940 and 1960, the Estuary Area's urban population increased 103 percent, while the rural population gained only 13 percent. The degree of urbanization in a region has a great deal of significance in water resource planning since high levels of demand for water in the cities and high concentrations of wastes from these areas often create water supply and quality problems. Table 3-10 presents historical data for urban and rural populations of the Estuary Area.

RECENT TRENDS

The population of the Chesapeake Bay Estuary Area increased 23.2 percent during the 1960-1970 decade. This was significantly higher than the National rate of 13.3 percent and higher than 43 of the 50 states. The great majority of the population increase in the Estuary Area, in absolute terms, occurred in the Washington, D.C. Subregion. Approximately 56 percent of the total growth in the Area took place in this Subregion, although only 39 percent of the people in the Bay Region resided there. The Baltimore, Maryland Subregion ranked second in absolute population increase during the decade, despite the fact that its growth rate of 13.5 percent was only slightly higher than the National rate. The Baltimore area benefited from some population "spillover" from the Washington, D.C. Subregion, especially in Howard and Anne Arundel Counties.

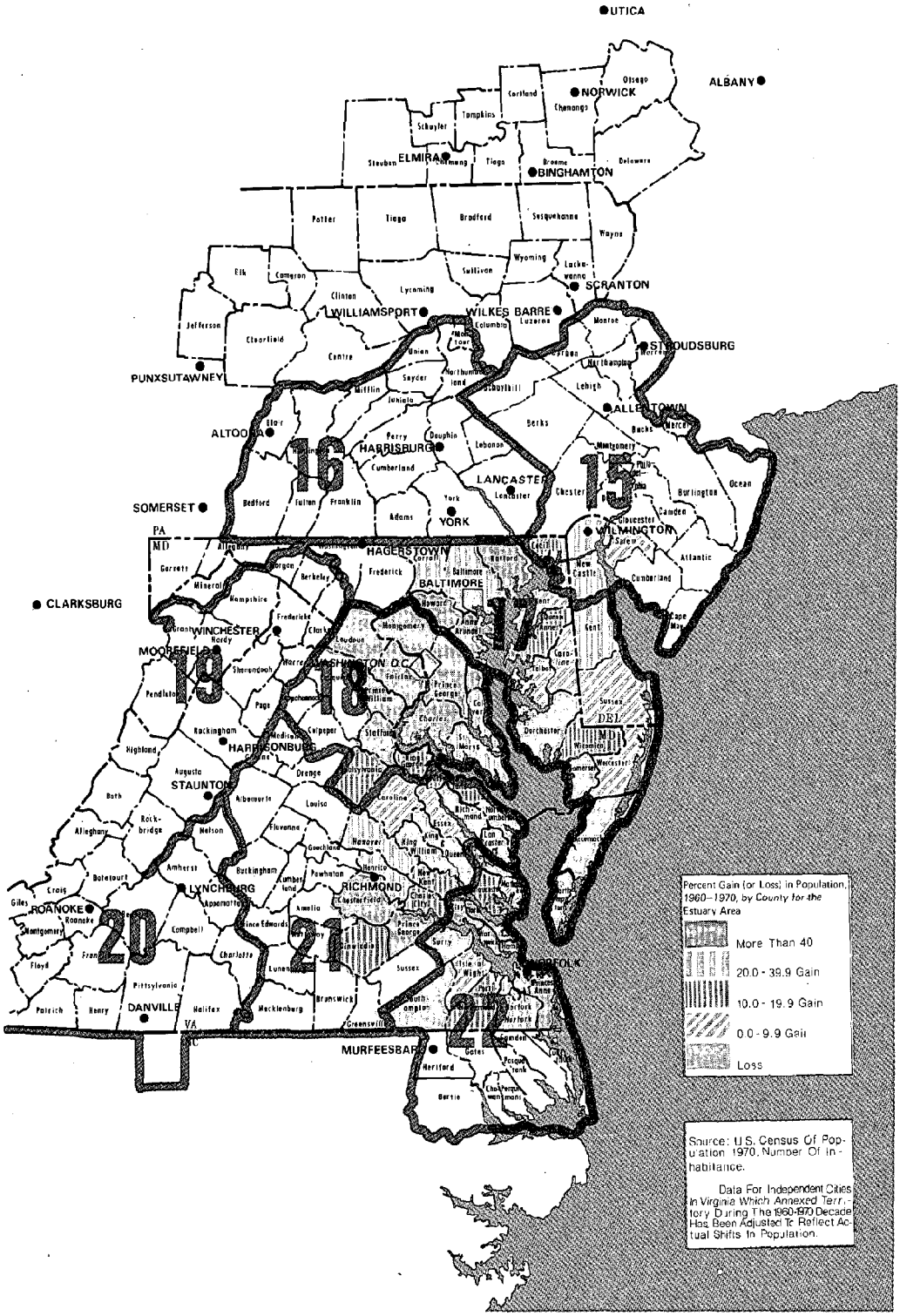
Population changes on the county level during the 1960-1970 decade varied greatly. In general, people tended to move out of the inner cities and rural counties and into the suburban counties. Figure 3-2 illustrates percentage change in population by county for the 1960-1970 decade. Most of the suburban counties experienced growth rates in excess of 30 percent. Prince Georges County, Maryland, experienced the greatest population growth, in absolute terms, with a gain of 303,272 people. Montgomery County, Maryland, and Fairfax County, Virginia, followed with gains of 181,881 and 180,019, respectively.

Net migration figures for the Estuary Area provide further evidence of the movement of people out of rural areas and cities and into the suburban counties. Figure 3-3 illustrates net migration by county for the Region. As might be expected,

TABLE 3-10
URBAN AND RURAL POPULATION BY ECONOMIC SUBREGION,
CHESAPEAKE BAY ESTUARY AREA, AND UNITED STATES
FOR SELECTED YEARS 1860-1970 (IN PERCENT)

Subregion	1860		1900		1940		1960		1970	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
17-Baltimore, Md.	46.5	53.5	54.3	45.7	65.0	35.0	71.5	28.5	73.8	26.2
18-Washington, D.C.	37.9	62.1	62.2	37.8	73.2	26.8	84.4	15.6	87.9	12.1
21-Richmond, Va.	22.8	77.2	35.0	65.0	50.5	49.5	61.6	38.4	69.0	31.0
22-Norfolk-Portsmouth, Va.	18.9	81.1	32.4	67.6	58.5	41.5	80.7	19.3	85.9	14.1
Wilmington, Del. SMSA	53.5	46.5	57.5	42.5	57.7	42.3	72.8	27.2	79.4	20.6
Chesapeake Bay Estuary Area	39.0	61.0	51.6	48.4	64.8	35.2	76.8	23.2	81.2	18.8
United States Total	19.8	80.2	39.7	60.3	56.5	43.5	69.9	30.1	73.5	26.5

Source: U.S. Census Data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SCRANTON
WILLIAMSPORT
WILKES BARRE
STROUDSBURG
PUNXSUTAWNEY
ALTOONA
HARRISBURG
ALLENTOWN
LANCASTER
SOMERSET
YORK
WILMINGTON
HAGERSTOWN
BALTIMORE
CLARKSBURG
WINCHESTER
WASHINGTON D.C.
STAUNTON
HARRISONBURG
LYNCHBURG
RICHMOND
ROANOKE
DANVILLE
NORFOLK
MURFEESBORO
16
15
17
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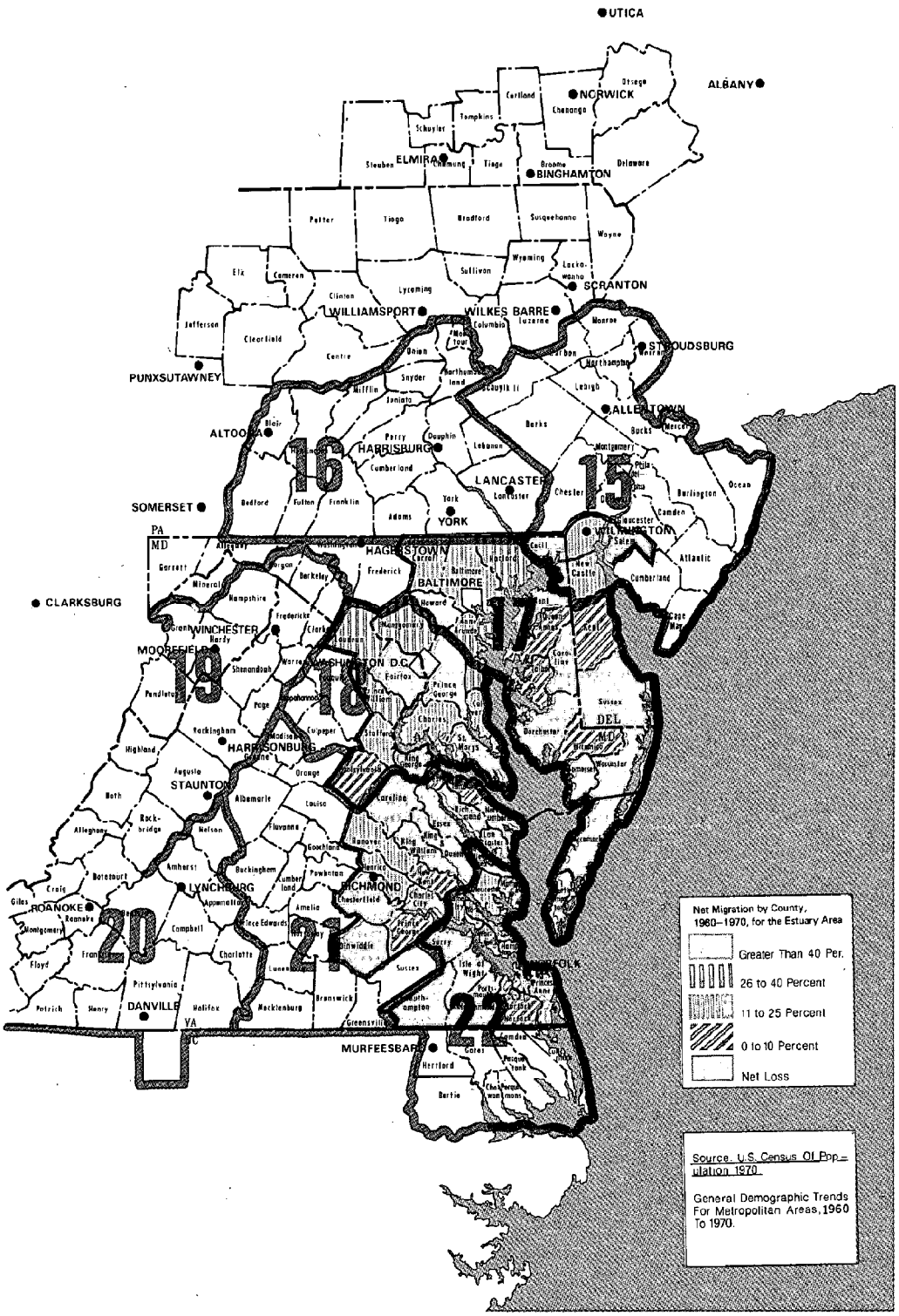
18
20
21
22
Percent Gain (or Loss) in Population, 1960–1970, by County for the Estuary Area
More Than 40
20.0 - 39.9 Gain
10.0 - 19.9 Gain
0.0 - 9.9 Gain
Loss
Source: U.S. Census Of Population 1970, Number Of Inhabitance.
Data For Independent Cities In Virginia Which Annexed Territory During The 1960-1970 Decade Has Been Adjusted To Reflect Actual Shifts In Population.

FIGURE 3-2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BALTIMORE
CLARKSBURG
WINCHESTER
MOOREFIELD
WASHINGTON D.C.
HARRISONBURG
STAUNTON
LYNCHBURG
RICHMOND
ROANOKE
DANVILLE
VA
NORFOLK
MURFEESBORO
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Net Migration by County, 1960–1970, for the Estuary Area
Greater Than 40 Per.
26 to 40 Percent
11 to 25 Percent
0 to 10 Percent
Net Loss
Source: U.S. Census Of Population 1970
General Demographic Trends For Metropolitan Areas, 1960 To 1970.

FIGURE 3-3

the counties in the Washington, D.C. SMSA experienced the largest absolute population gains due to net in-migration. Prince Georges County led with a gain of 200,646 migrants. Fairfax and Montgomery Counties ranked next with 154,890 and 126,899, respectively. The entire Estuary Area had a net population gain due to migration of 556,312 with the Washington, D.C. Subregion experiencing about 77 percent of this increase. Despite the fact that all of the Subregions and the Wilmington, Delaware SMSA experienced net immigration, 30 of the 58 counties and most of the major cities in the Area experienced net losses. Table 3-11 presents net migration data for each Subregion.

TABLE 3-11
NET MIGRATION BETWEEN 1960 AND 1970

Subregion	Net Migration	Percent Increase Over 1960 Population
17 - Baltimore, Md.	+45,987	+2.1
18 - Washington, D.C.	+427,953	+19.3
21 - Richmond, Va.	+33,079	+5.3
22 - Norfolk-Portsmouth, Va.	+21,102	+2.2
Wilmington, Del. SMSA	+28,191	+6.7

Source: U.S. Census of Population: 1970, General Demographic Trends for Metropolitan Areas, 1960-1970.

It is interesting to note the differences in migration patterns for various racial and income groups and the effects these migration patterns have had on the economic and social structure of the cities. In general, skilled white workers were moving out of the cities and into the suburbs while poorer and largely unskilled non-whites were moving out of the rural counties and into the inner cities. For example, a net total of over 138,000 whites migrated out of the District of Columbia during the 1960-1970 decade. During the same period, the city gained a net total of 38,000 non-whites. As a result, the average skill level of the city worker decreased; urban tax bases declined (resulting in either higher tax rates or in a deterioration in public services); and the cities became generally less attractive to

industry. The total number of manufacturing firms in the City of Baltimore has been declining for the last several decades. The City had 1,743 firms in 1950, 1,507 in 1960, and 1,195 in 1968.

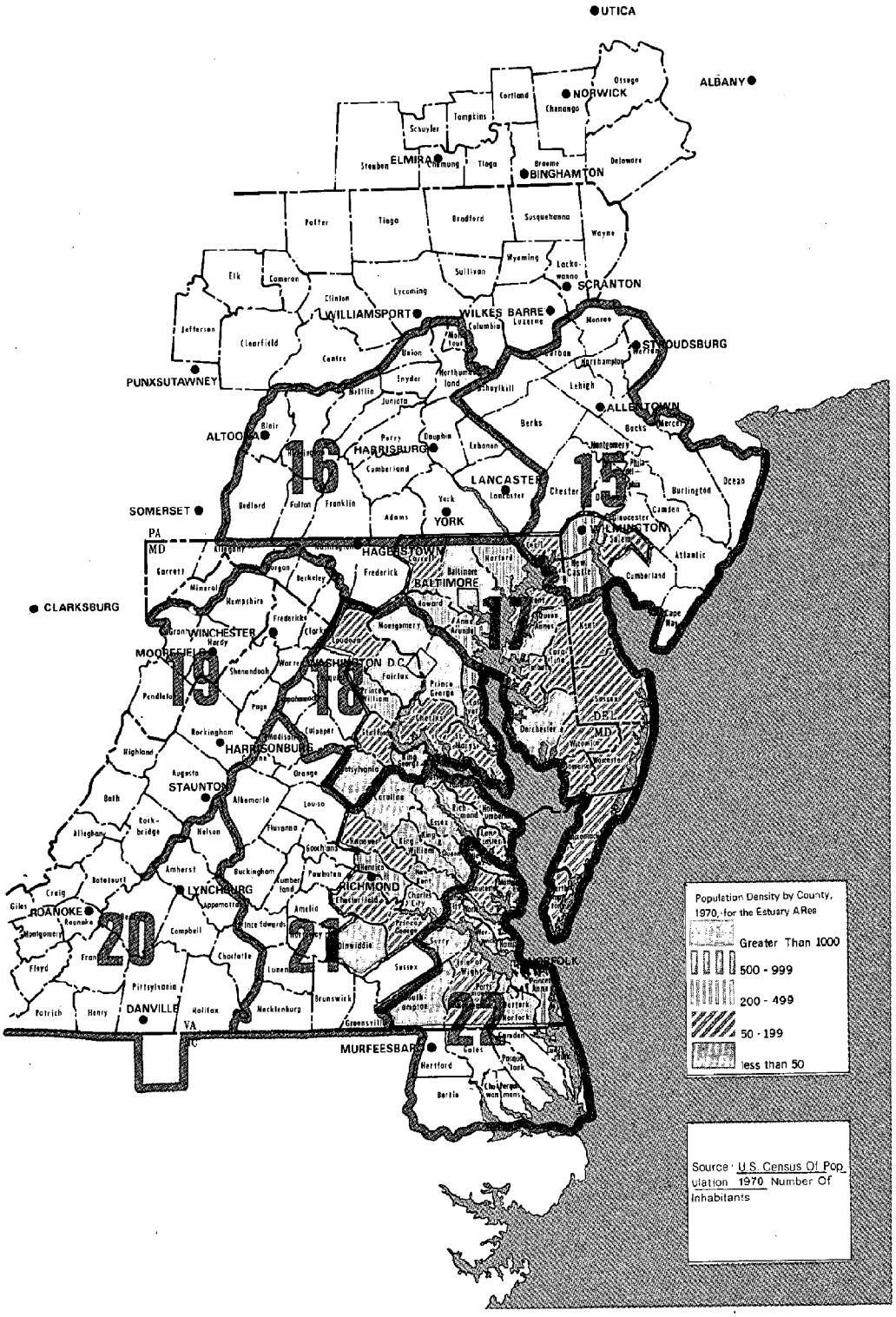
Despite the general movement of people out of the major cities in the Estuary Area, the urban population of the Area continued to increase during the 1960-1970 decade as shown in Table 3-10. This happened because of the tendency of the city's out-migrants (as well as new migrants into the Region) to settle into smaller urban areas outside the cities. Urban dwellers increased by 1,486,091 during the 1960-1970 decade, while the rural population declined by 5,521. Figure 3-4 presents data for population density by county for the Estuary Area.

AGE DISTRIBUTION AND EDUCATIONAL LEVELS

The Chesapeake Bay Estuary Area has a larger percentage of its population in the productive labor force age group than does the Nation as a whole. This is due to the effects of the large net in-migration during the last several decades since the average migrant tends to be younger than those that stay behind. A large labor force age population means a smaller group in the less productive, and mostly dependent less than 18 and older than 64 age brackets. Figure 3-5 illustrates age distribution figures for the Estuary Area and the United States.

The labor force age population in each of the Subregions is also greater than the National figure as pointed out in Table 3-12. The Norfolk-Portsmouth Subregion had the highest population of productive workers due to the large numbers of military personnel stationed in the area. In 1970, there were approximately 109,000 members of the Armed Forces in the Subregion, or about 23 percent of the total labor force.

The Chesapeake Bay Region has a slightly higher skilled labor force than the Nation as a whole as measured by the percentage of high school graduates in the population. The proportion of high school graduates in the Estuary Area population (males 25 years old and over) is 53.8 percent. The National figure is about 53.0 percent.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HARRISBURG
ALLENTOWN
LANCASTER
SOMERSET
YORK
WILMINGTON
HAGERSTOWN
BALTIMORE
CLARKSBURG
WINCHESTER
WASHINGTON D.C.
HARRISONBURG
STAUNTON
LYNCHBURG
RICHMOND
ROANOKE
DANVILLE
NORFOLK
MURFEESBORO
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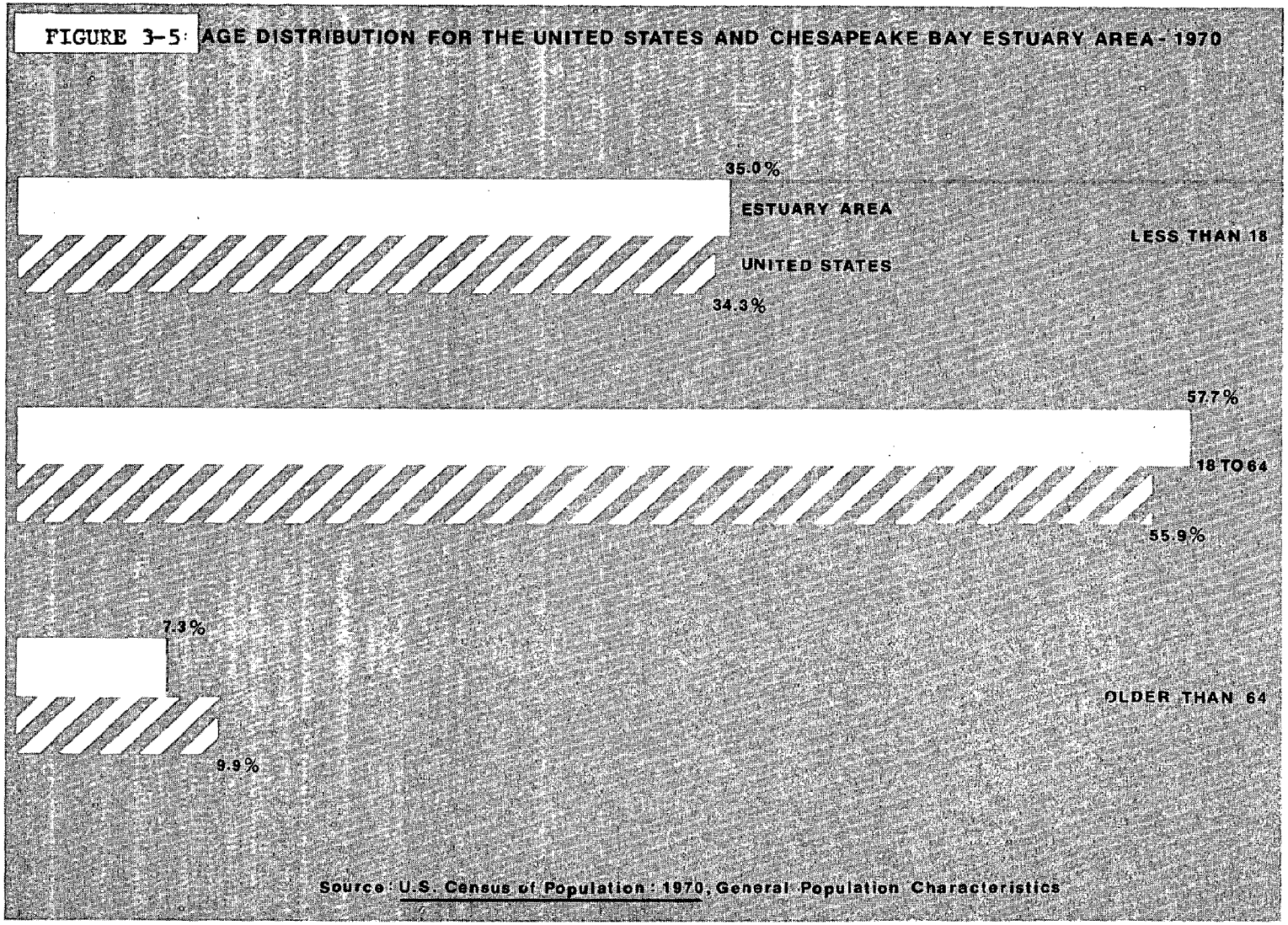
21
Population Density by County, 1970, for the Estuary Area
Greater Than 1000
500 - 999
200 - 499
50 - 199
less than 50
Source: U.S. Census Of Population 1970 Number Of Inhabitants

FIGURE 3-4

FIGURE 3-5: AGE DISTRIBUTION FOR THE UNITED STATES AND CHESAPEAKE BAY ESTUARY AREA - 1970



Source: U.S. Census of Population: 1970, General Population Characteristics

TABLE 3-12
AGE DISTRIBUTION BY ECONOMIC SUBREGION - 1970

	Percent less than 18	Percent 18-64	Percent Older than 64
17 - Baltimore, Md.	34.3	56.7	8.9
18 - Washington, D. C.	35.8	58.2	5.8
21 - Richmond, Va.	33.8	57.1	9.1
22 - Norfolk-Portsmouth, Va.	34.9	58.6	6.4
Wilmington, Del. SMSA	35.9	56.3	7.8
Estuary Area Total	35.1	57.6	7.3
United States Total	34.3	55.8	9.9

Source: U. S. Census of Population: 1970, General Population Characteristics

There is a great deal of variation, however, in education levels within the Estuary Area. In fact, only the Washington, D. C. Subregion and the Wilmington, Delaware SMSA had a higher percentage of high school graduates than the Nation as a whole. Median school years completed, on a county level, range from a low of 7.5 years in Southampton County, Virginia, to highs of 14.3 in Fairfax County, Virginia, and 15.0 years in Montgomery County, Maryland. There is a direct relationship between the availability of high paying jobs and the general level of education in an area. As a result, the inhabitants of the suburban counties and the cities have the highest levels of educational attainment. This is clearly illustrated in Figure 3-6.

A significant number of city residents have also completed some form of vocational training. Table 3-13 presents data for the percentage of labor force age males who have completed some vocational training.

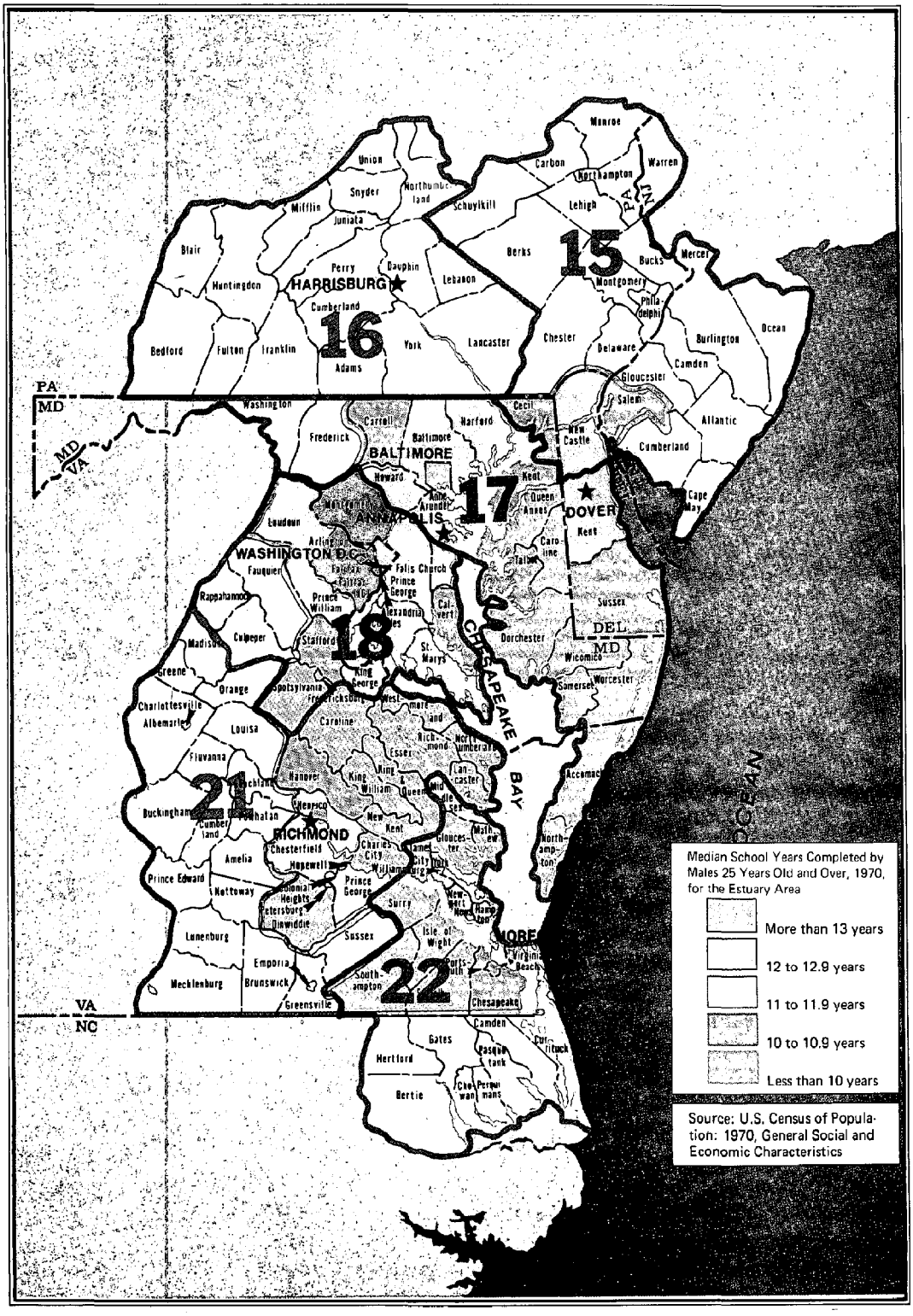

Median School Years Completed by Males 25 Years Old and Over, 1970, for the Estuary Area
More than 13 years
12 to 12.9 years
11 to 11.9 years
10 to 10.9 years
Less than 10 years
Source: U.S. Census of Population: 1970, General Social and Economic Characteristics
15
16
17
18
21
22
HARRISBURG
BALTIMORE
ANNAPOLIS
DOVER
WASHINGTON D.C.
RICHMOND
CHESAPEAKE BAY
ATLANTIC OCEAN
PA
MD
VA
NC
DEL

FIGURE 3-6

TABLE 3-13
TRAINING IN THE MAJOR ESTUARY AREA SMSA's
FOR MALES 16-64 YEARS OLD
WITH LESS THAN 15 YEARS SCHOOLING

City	Percent
Newport News - Hampton, Va.	39.7
Norfolk - Portsmouth, Va.	37.5
Petersburg - Colonial Heights, Va.	26.0
Richmond, Va.	26.3
Washington, D.C.	36.3
Baltimore, Md.	30.1
Wilmington, Del.	32.3

Source: Census of Population: 1970, General Social and Economic Characteristics

EMPLOYMENT AND INCOME LEVELS

In 1970, there were approximately 3.3 million people employed in the Chesapeake Bay Estuary Area. About 91 percent of these worked in one of the Region's seven SMSA's. During the 1960-1970 period, total employment increased by 760,075 jobs or about 30.0 percent. The National gain during this same period was 19.5 percent. Most of the Regional increases were in the Service, Wholesale and Retail Trade, and Public Administration Sectors with gains of 315,902, 147,465, and 126,246 jobs, respectively. It should be emphasized that the employment figures in this report are derived from the 1960 and 1970 Censuses. Census employment data is based on place of residence and not place of work. Therefore, if a person works in a different county or city from where he lives, employment data will be reflected for the county in which he resides. There

are several major differences between Census employment data and other data based on establishment figures. See the Introduction to the following Chapter for an explanation of these differences.

On a Subregion basis, all of the Subregions experienced rates of growth greater than the National rate as shown in Table 3-14. The Washington, D. C. Subregion experienced the greatest gains with a 43.0 percent increase. This employment growth was the major factor in drawing new people from all over the country into the Bay Region.

Employment by industrial Sector in the Estuary Area differs significantly from the National employment picture as shown in Table 3-14 and Figure 3-7. There is a higher percentage of Estuary Area workers in the "white-collar" professions such as Public Administration and the Services. On the other hand, the Region has a smaller proportion of workers in the "blue-collar" industries such as manufacturing and mining. The latter industries tend to be more volatile in terms of changes in employment in response to changes in the National economy. As a result, the industrial structure of the Estuary Area's economy has contributed to a relatively more stable employment situation than in the Nation as a whole. This is demonstrated in the comparative unemployment rates shown in Table 3-15. In both 1960 and 1970 unemployment rates for the entire Bay Region were significantly below the National rates. In all cases, except for the Baltimore Subregion in 1960, Subregion unemployment rates were also below the 1960 and 1970 National figures.

Also contributing to the relatively stable employment levels in the Bay Region was the large numbers of workers whose jobs depended on Federal Government spending, especially in the Defense-related industries. In 1970, approximately 16 percent of the Labor Force (including the Armed Forces) had jobs which were directly related to Defense spending, with many more thousands of jobs linked indirectly. Defense spending has experienced an almost uninterrupted rise since the end of World War II. For the most part, employment has risen along with spending. However, recent cutbacks (since 1970) in certain areas of the Defense and Space industries have had serious impacts in some of the Bay Region especially around Washington and Baltimore. Posssible future cuts in the Defense budget could have tremendous adverse effects on the economy of the Area unless spending is increased in other areas to take-up the slack.

Per capita income in the Chesapeake Bay Estuary Area was significantly higher than in the United States as a whole. The

TABLE 3-14
EMPLOYMENT BY INDUSTRY FOR THE CHESAPEAKE BAY ESTUARY AREA
BY ECONOMIC SUBREGION, AND FOR THE UNITED STATES - 1970

Subregion	Agriculture Forestry and Fisheries	Mining	Contract Construction	Manu-facturing	Transportation, Communications and Utilities	Wholesale, and Retail Trade
17-Baltimore, Md.	24,366	984	63,836	244,399	67,386	188,128
Percent Change	-26.3	+10.2	+10.2	+0.2	+7.0	+26.2
Percent of Total	2.4	0.1	6.4	24.4	6.7	18.7
18-Washington, D.C.	12,427	1,313	74,849	83,005	79,102	209,050
Percent Change	-17.8	+96.0	+28.2	+14.1	+39.8	+51.7
Percent of Total	0.9	0.1	5.6	6.3	6.0	15.7
21-Richmond, Va.	5,589	606	21,317	67,267	21,173	58,438
Percent Change	-39.8	+242.4	+21.1	+11.6	+13.3	+25.5
Percent of Total	1.9	0.2	7.1	22.3	7.0	19.4
22-Norfolk-Portsmouth, Va.	8,252	268	26,196	67,661	25,282	73,946
Percent Change	-33.8	+155.2	+31.8	+14.3	+15.1	+24.3
Percent of Total	1.8	0.1	5.6	14.6	5.4	15.9
SMSA-Wilmington, Del.	3,450	243	13,527	62,136	11,469	35,634
Percent Change	-31.3	+62.0	+31.3	+5.2	+17.7	+43.5
Percent of Total	1.8	0.1	6.9	31.6	5.8	18.1
Total Estuary Area	54,084	3,414	199,725	524,468	204,412	565,196
Percent Change	-27.9	+71.1	+22.3	+5.9	+20.3	+35.3
Percent of Total	1.6	0.1	6.1	15.9	6.2	17.2
Total United States	2,699,995	604,558	4,219,249	18,880,191	4,906,111	14,613,390
Percent Change	-37.9	-7.6	+10.6	+7.8	+10.0	+23.9
Percent of Total	3.6	0.8	5.7	25.3	6.6	19.6

SOURCE: U.S. Census of Population: 1970. General Social and Economic Characteristics, United States Summary. Table 77 "Employment Status by Sex and Race: 1940 to 1970"; Table 82 "Major Industry of Employed Persons by Race and Sex: 1970 and 1960."

TABLE 3-14 (Continued)
EMPLOYMENT BY INDUSTRY FOR THE CHESAPEAKE BAY ESTUARY AREA,
BY ECONOMIC SUBREGION, AND FOR THE UNITED STATES - 1970

Subregion	Finance, Insurance, & Real Estate	Services	Public Administration	Armed Forces[1]	Total
17-Baltimore, Md.	45,655	244,683	88,586	35,383	1,003,404
Percent Change	+32.0	+50.0	+53.3	+2.6	+19.8
Percent of Total	4.6	24.4	8.8	3.5	100.0
18-Washington, D.C.	69,787	395,824	312,012	90,394	1,327,763
Percent Change	+62.2	+70.5	+33.0	+17.2	+43.0
Percent of Total	5.3	29.8	23.5	6.8	100.0
21-Richmond, Va.	18,379	75,834	22,517	10,201	301,321
Percent Change	+38.4	+40.3	+44.2	+32.8	+24.3
Percent of Total	6.1	25.2	7.5	3.4	100.0
22-Norfolk-Portsmouth, Va.	15,480	93,562	44,833	108,959	464,439
Percent Change	+54.0	+47.9	+27.3	+26.8	+26.4
Percent of Total	3.3	20.1	9.7	23.5	100.0
SMSA-Wilmington, Del.	8,673	49,429	7,500	4,466	196,527
Percent Change	+46.5	+60.2	+24.1	-20.0	+24.8
Percent of Total	4.4	25.2	3.8	2.3	100.0
Total Estuary Area	157,974	859,332	475,448	249,403	3,293,454
Percent Change	+47.8	+58.1	+36.2	+18.3	+30.0
Percent of Total	4.8	26.1	14.4	7.6	100.0
Total United States	3,651,597	18,917,270	4,055,947	1,954,134	74,502,442[2]
Percent Change	+35.5	+38.4	+31.5	+14.6	+16.9
Percent of Total	4.9	25.4	5.5	2.6	100.0

[1]Data for United States includes only personnel stationed in this country.
[2]Total does not include "industry not reported."

SOURCE: U.S. Census of Population: 1970. General Social and Economic Characteristics, United States Summary. Table 77 "Employment Status by Sex and Race: 1940 to 1970"; Table 82 "Major Industry of Employed Persons by Race and Sex: 1970 and 1960."

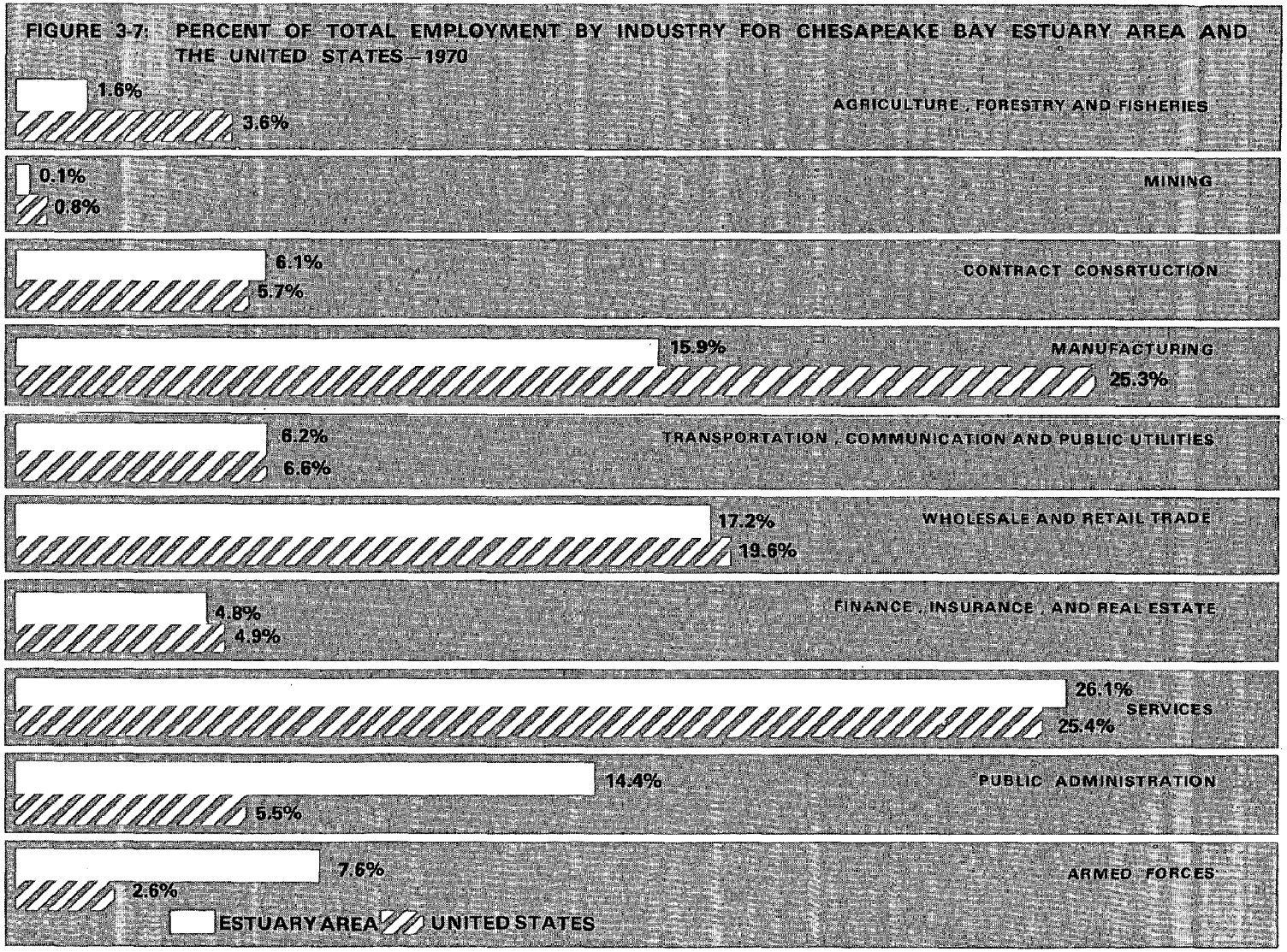


FIGURE 3-7: PERCENT OF TOTAL EMPLOYMENT BY INDUSTRY FOR CHESAPEAKE BAY ESTUARY AREA AND THE UNITED STATES – 1970
1.6%
3.6%
AGRICULTURE, FORESTRY AND FISHERIES
0.1%
0.8%
MINING
6.1%
5.7%
CONTRACT CONSRTUCTION
15.9%
25.3%
MANUFACTURING
6.2%
6.6%
TRANSPORTATION, COMMUNICATION AND PUBLIC UTILITIES
17.2%
19.6%
WHOLESALE AND RETAIL TRADE
4.8%
4.9%
FINANCE, INSURANCE, AND REAL ESTATE
26.1%
25.4%
SERVICES
14.4%
5.5%
PUBLIC ADMINISTRATION
7.6%
2.6%
ARMED FORCES
ESTUARY AREA
UNITED STATES

TABLE 3-15
UNEMPLOYMENT RATES BY ECONOMIC SUBREGION, TOTAL ESTUARY AREA AND UNITED STATES: APRIL, 1960 AND 1970

Subregion	Unemployment Rate 1960	1970
17 - Baltimore, Md.	5.3	3.8
18 - Washington, D.C.	2.9	2.7
21 - Richmond, Va.	3.8	2.5
22 - Norfolk-Portsmouth, Va.	4.5	3.8
Wilmington, Del. SMSA	4.9	3.8
Estuary Area Total	4.2	3.2
United States Total	5.1	4.3

Source: U.S. Census Data and the Handbook of Labor Statistics, 1971, U.S. Department of Labor

figure for the Bay Region in 1969 was $3,694 per person while the National figure was $3,389 (both in 1967 dollars). Per capita income (or some other measure of income) is another variable which is important in water resource planning. As incomes rise in a region, more water is demanded not only for sprinkling lawns, running dishwashers, filling swimming pools, etc., but also for recreational purposes.

Again there is a great deal of variation within the Estuary Area. Per capita income figures by Subregion in 1960 range from a high of $4,241 in the Wilmington, Delaware SMSA to a low of $3,084 in the Norfolk-Portsmouth, Virginia Subregion. Table 3-16 presents per capita income by Economic Subregion. On the county level, median family incomes ranged from $16,710 in Montgomery County, Maryland, to $4,778 in Northampton County, Virginia. Figure 3-8 clearly shows that the higher incomes are located in and around the major cities. This is another illustration of the fact that the vast majority of the economic activity in the Estuary Area is located in the SMSA's. Approximately 92% of the total income in the Area originated in the SMSA's.

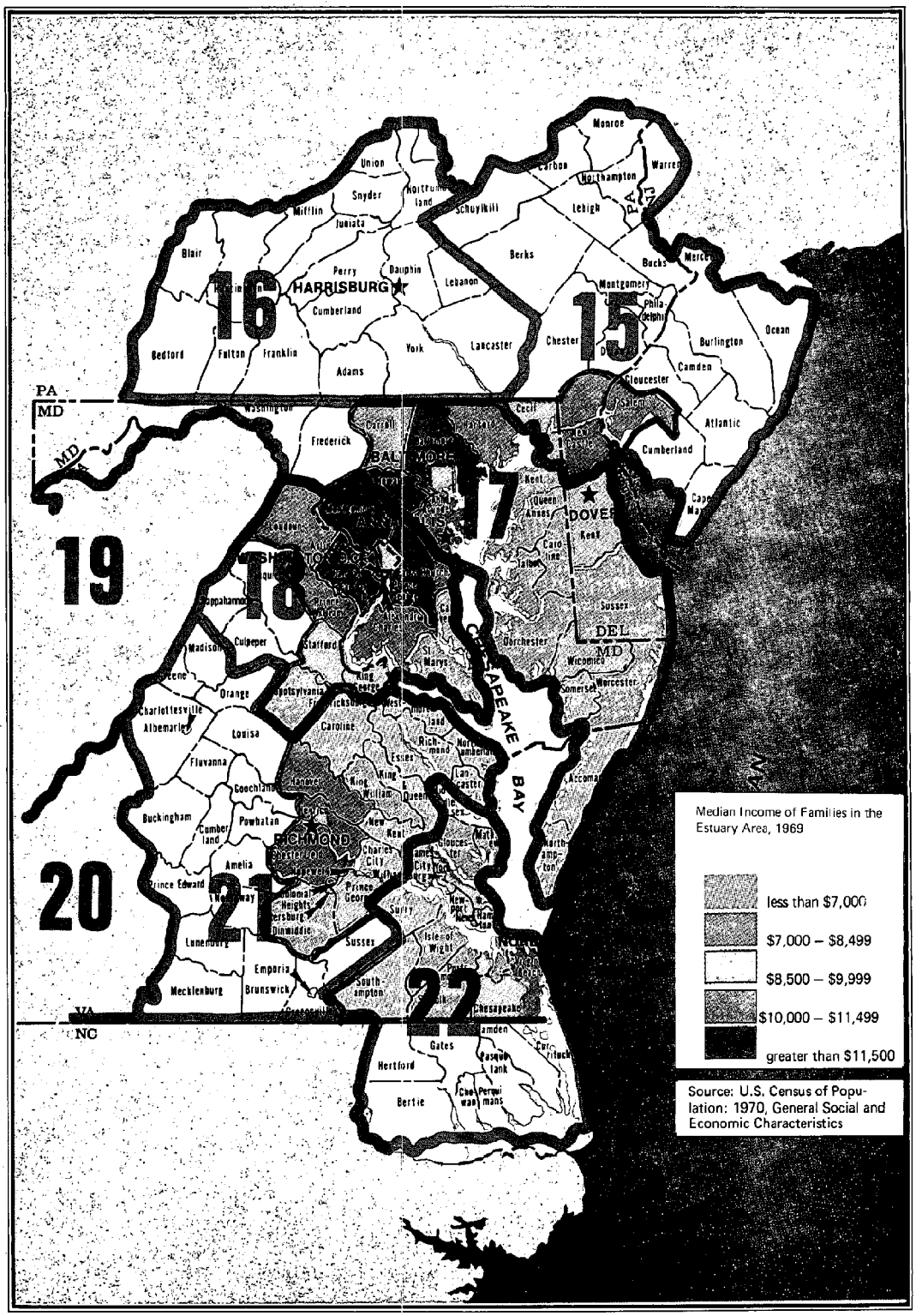

Median Income of Families in the Estuary Area, 1969
less than $7,000
$7,000 – $8,499
$8,500 – $9,999
$10,000 – $11,499
greater than $11,500
Source: U.S. Census of Population: 1970, General Social and Economic Characteristics
16
15
17
18
19
20
21
22
HARRISBURG
DOVER
RICHMOND
CHESAPEAKE BAY
PA
MD
DEL
VA
NC

FIGURE 3-8

TABLE 3-16
PER CAPITA INCOME BY ECONOMIC SUBREGION,
CHESAPEAKE BAY ESTUARY AREA,
AND THE UNITED STATES - 1969

Subregion	Per Capita Income
17 - Baltimore, Md.	$3,539
18 - Washington, D. C.	$4,009
21 - Richmond, Va.	$3,500
22 - Norfolk-Portsmouth, Va.	$3,084
Wilmington, Del. SMSA	$4,241
Chesapeake Bay Estuary Area	$3,694
United States Total	$3,389

Source: U. S. Census of Population: 1970, General Social and Economic Characteristics

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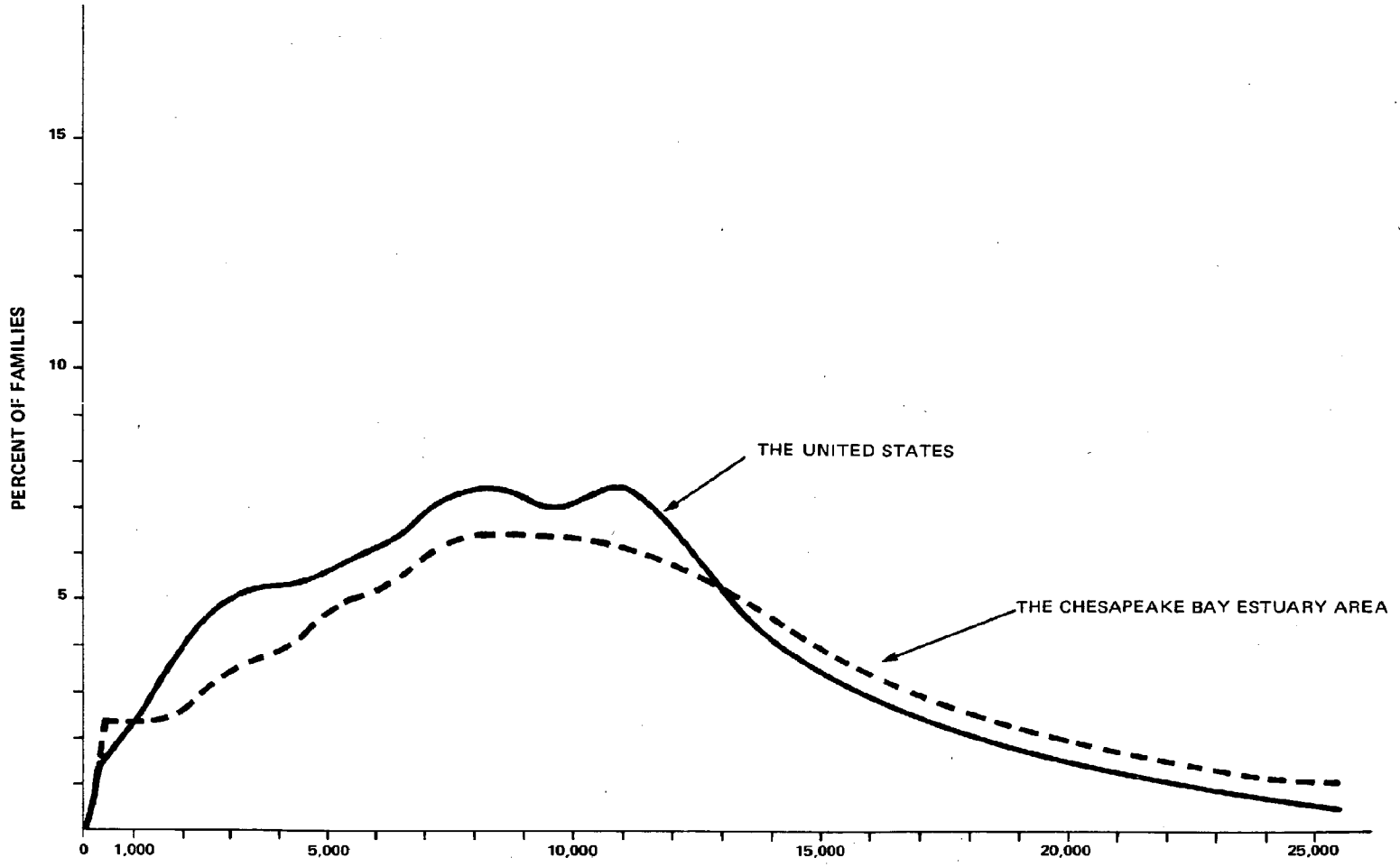
Perhaps the most important measure of income for use in water resource planning is income distribution. The larger the proportion of the population in the high-income brackets the greater the demand for water for residential uses. As can be seen in Figure 3-9, there was a significantly higher proportion of families in the upper income brackets in the Estuary Area than in the United States as a whole.

Approximately 27.5 percent of the families in the Bay Region in 1969 had incomes over $15,000. The National figure was 19.2 percent. On the other hand, there were fewer poor people in the Estuary Area. About 11.2 percent of the population lived in families whose incomes were below the poverty level in 1969, compared to a National rate of 12.2 percent. Both of these facts are consequences of the relatively low unemployment rates and high earnings which prevail in the Estuary Area.



SOURCE: U.S. CENSUS OF POPULATION: 1970, GENERAL SOCIAL AND ECONOMIC CHARACTERISTICS

FIGURE 3-9 : INCOME DISTRIBUTION FOR THE ESTUARY AREA AND THE UNITED STATES, 1969

A SHIFT-SHARE ANALYSIS OF THE CHESAPEAKE BAY ESTUARY AREA

A common statistical technique for regional analysis is the shift-share method. This technique sorts out the various factors which relate to the differences in rates of employment growth. The standard of reference is usually the growth rate in the Nation as a whole. Table 3-17 presents two types of information. First, actual employment for the Estuary Area by industry in 1960 and 1970, along with the actual changes during this period. The second type of information consists of three parts. The first part, "National growth," shows the amount of growth which would have occurred at the National all-industry rate. The second part shows the employment change relating to "industrial mix," or the distribution of fast and slow growth industries in the Region. The growth rate in a particular industry is characterized as fast if it exceeds and slow if it falls short of the National all-industry rate. The third part, "regional share," relates to any change in employment due to an alteration in the Region's access to markets or basic inputs relative to other regions engaged in the same activity.

Table 3-17 shows the results of the shift-share analysis conducted on the Chesapeake Bay Estuary Area. Of the total employment change of 760,075 during the 1960-1970 decade, 494,009 of the gain was due to the general growth in the National economy. Another 175,197 of the increase in workers was due to the Estuary Area having a relatively high proportion of workers in fast-growth industries, e.g., Services and Public Administration. The remaining gain of 90,871 employees in the regional share category was accounted for by the fact that certain industries in the Estuary Area grew faster than the National rate for those industries, e.g., Services and Wholesale and Retail Trade. The total of the "National growth," "industrial mix," and "regional share" growth factors equals the total employment change.

The method of analysis is similar on the Sectoral level. For example, the employment change in Manufacturing would have been +96,558 had it grown at the National rate. But after making adjustment for the fact that this was one of the Nation's fast-growth industries and for the fact that the Estuary Area did not do as well (as far as employment growth is concerned) as the average region in the Sector, the actual employment change in the Manufacturing Sector was +29,301.

TABLE 3-17

A SHIFT-SHARE ANALYSIS FOR THE CHESAPEAKE BAY ESTUARY AREA [1]

INDUSTRY	EMPLOYMENT 1960	EMPLOYMENT 1970	CHANGES RELATED TO National Growth	CHANGES RELATED TO Industrial Mix	CHANGES RELATED TO Regional Share	Total Change
Agriculture, Forestry, and Fisheries	74,968	54,084	+14,619	-38,609	+3,106	-20,884
Mining	1,995	3,414	+389	-658	+1,688	+1,419
Construction	163,272	199,723	+31,838	+5,715	-1,102	+36,451
Manufacturing	495,167	524,468	+96,558	+32,186	-99,443	+29,301
Transportation, Communication, and Utilities	169,932	204,412	+33,137	-9,346	+10,689	+34,480
Wholesale and Retail Trade	417,731	565,196	+81,458	+16,709	+49,298	+147,465
Finance, Insurance, and Real Estate	106,887	157,974	+20,843	+9,085	+21,159	+51,087
Services	543,430	859,332	+105,969	+114,120	+95,813	+315,902
Public Administration	349,202	475,448	+68,094	+62,856	-4,704	+126,246
Armed Forces	210,795	249,403	+41,105	-16,864	+14,367	+38,608
Total	2,533,379	3,293,454	+494,010	+175,194	+90,871	+760,075

[1] It should be kept in mind that 1970 data for the total United States used in this analysis was estimated from 1968 data since employment information from the latest Census was not available at this writing.

Tables 3-18 through 3-22 present data for shift-share analyses performed for each of the Economic Subregions for the 1960-1970 period. The standard of reference for these analyses was the Estuary Area rather than the United States.

The next chapter of this report will analyze the economy of the Chesapeake Bay Estuary Area on a more detailed Sector by Sector basis.

SUMMARY

During Colonial times the Chesapeake Bay Region was one of the primary growth centers of the New World. However, after the decline of the Region's tobacco industry in the 19th Century population growth began to lag. This period of relative stagnation lasted until World War II when greatly increased Federal spending (especially in defense) stimulated employment and, therefore, population growth throughout the Bay Region but especially around Washington, D.C. and Norfolk, Virginia.

Population growth in the Bay Region has continued to soar since World War II, increasing by 23.2 percent, or almost 1.5 million during the 1960-1970 decade. The Washington, D.C. Subregion experienced about 56 percent of the total growth, although all of the Subregions had rates of growth higher than the national increase. Approximately 38 percent of the population growth in the Area was the result of a net migration of over one-half million people into the Bay Region. All of the Subregions experienced net in-migrations which ranged from 2.1 to 19.3 percent of their 1960 populations.

Approximately 81.2 percent of the Bay Region's population was considered urban in 1970. The urban population increased by 1,486,091 during the 1960-1970 period while the rural population declined by 5,521. Generally speaking, people tended to move out of the inner cities and rural counties and into relatively small urban areas in the suburban counties. Most of the suburban counties experienced growth rates in excess of 30 percent.

The inhabitants of the Chesapeake Bay Region have a slightly higher education level than the population of the United States as a whole. In addition, the Bay Region has a large proportion

TABLE 3-18
A SHIFT-SHARE ANALYSIS FOR THE BALTIMORE, MARYLAND SUBREGION WITH THE ESTUARY AREA AS THE STANDARD OF REFERENCE

INDUSTRY	EMPLOYMENT 1960	EMPLOYMENT 1970	CHANGES RELATED TO: National Growth	CHANGES RELATED TO: Industrial Mix	CHANGES RELATED TO: Sub-Regional Share	Total Change
Agriculture, Forestry, & Fisheries	33,076	24,366	+9,923	-19,151	+529	-8,710
Mining	893	984	+268	+367	-544	+91
Construction	57,938	63,834	+17,381	-4,461	-7,010	+5,896
Manufacturing	243,855	244,399	+73,157	-58,769	-13,900	+544
Transportation, Communications Utilities	62,964	67,386	+18,889	-6,108	-8,374	+4,422
Wholesale and Retail Trade	149,013	188,128	+44,704	+7,898	-13,560	+39,115
Finance, Insurance & Real Estate	34,599	45,655	+10,380	+6,159	-5,467	+11,056
Services	163,115	244,683	+48,935	+45,835	-13,212	+81,568
Public Administration	57,778	88,586	+17,333	+3,582	+9,880	+30,808
Armed Forces	34,484	35,383	+10,345	-4,035	-5,414	+899
TOTAL	837,715	1,003,404	+251,315	-28,683	-56,943	+165,689

TABLE 3-19
A SHIFT-SHARE ANALYSIS FOR THE WASHINGTON, D.C. SUBREGION WITH THE ESTUARY AREA AS THE STANDARD OF REFERENCE

INDUSTRY	EMPLOYMENT 1960	EMPLOYMENT 1970	CHANGES RELATED TO National Growth	CHANGES RELATED TO Industrial Mix	CHANGES RELATED TO Sub-Regional Share	Total Change
Agriculture, Forestry & Fisheries	15,123	12,427	+4,537	-8,756	+1,527	-2,696
Mining	670	1,313	+201	+275	+167	+643
Construction	58,377	74,849	+17,513	-4,495	+3,444	+16,472
Manufacturing	72,778	83,005	+21,833	-17,539	+5,968	+10,227
Transportation, Communications Utilities	56,568	79,102	+16,970	-5,487	+11,031	+22,534
Wholesale and Retail Trade	137,823	209,050	+41,347	+7,305	+22,603	+71,227
Finance, Insurance & Real Estate	43,034	69,787	+12,910	+7,660	+6,197	+26,753
Services	232,166	395,824	+69,650	+65,239	+28,789	+163,658
Public Administration	234,550	312,012	+70,365	+14,542	-7,506	+77,462
Armed Forces	77,147	90,394	+23,144	-9,026	-849	+13,247
TOTAL	928,236	1,327,763	+278,470	+49,718	+71,339	+399,527

TABLE 3-20

A SHIFT-SHARE ANALYSIS FOR THE RICHMOND, VIRGINIA SUBREGION WITH THE ESTUARY AREA AS THE STANDARD OF REFERENCE

INDUSTRY	EMPLOYMENT 1960	EMPLOYMENT 1970	CHANGES RELATED TO National Growth	CHANGES RELATED TO Industrial Mix	CHANGES RELATED TO Sub-Regional Share	Total Change
Agriculture, Forestry & Fisheries	9,282	5,589	+2,785	-5,374	-1,105	-3,693
Mining	177	606	+53	+73	+303	+429
Construction	16,777	21,317	+5,033	-1,292	+805	+4,540
Manufacturing	60,286	67,267	+18,086	-14,529	+3,436	+6,981
Transportation, Communications Utilities	18,685	21,173	+5,606	-1,812	-1,308	+2,488
Wholesale and Retail Trade	46,553	58,438	+13,966	+2,467	-4,562	+11,885
Finance, Insurance & Real Estate	13,282	18,379	+3,985	+2,364	-1,249	+5,097
Services	54,058	75,834	+16,217	+15,190	-9,622	+21,776
Public Administration	15,611	22,517	+4,683	+968	+1,249	+6,906
Armed Forces	7,680	10,201	+2,304	-899	+1,114	+2,521
TOTAL	242,391	301,321	+72,718	-2,844	-10,944	+58,930

TABLE 3-21
A SHIFT-SHARE ANALYSIS FOR THE NORFOLK-PORTSMOUTH, VIRGINIA SUBREGION WITH THE ESTUARY AREA AS THE STANDARD OF REFERENCE

INDUSTRY	EMPLOYMENT 1960	EMPLOYMENT 1970	CHANGES RELATED TO Estuary Growth	CHANGES RELATED TO Industrial Mix	CHANGES RELATED TO Sub-Regional Share	Total Change
Agriculture, Forestry & Fisheries	12,465	8,252	+3,740	-7,217	-735	-4,213
Mining	105	268	+32	+43	+88	+163
Construction	19,876	26,196	+5,963	-1,530	+1,888	+6,320
Manufacturing	59,211	67,661	+17,763	-14,270	+4,974	+8,450
Transportation, Communications Utilities	21,972	25,282	+6,592	-2,131	-1,143	+3,310
Wholesale and Retail Trade	59,511	73,946	+17,853	+3,154	-6,546	+14,435
Finance, Insurance & Real Estate	10,053	15,480	+3,016	+1,789	+623	+5,427
Services	63,245	93,562	+18,974	+17,772	-6,451	+30,317
Public Administration	35,220	44,833	+10,566	+2,184	-3,135	+9,613
Armed Forces	85,903	108,959	+25,771	-10,051	+7,302	+23,056
TOTAL	367,561	464,439	+110,270	-10,257	-3,135	96,878

TABLE 3-22
A SHIFT-SHARE ANALYSIS FOR THE WILMINGTON, DELAWARE SMSA WITH THE ESTUARY AREA AS THE STANDARD OF REFERENCE

INDUSTRY	EMPLOYMENT 1960	EMPLOYMENT 1970	CHANGES RELATED TO Estuary Growth	CHANGES RELATED TO Industrial Mix	CHANGES RELATED TO Sub-Regional Share	Total Change
Agriculture, Forestry & Fisheries	5,022	3,450	+1,507	-2,908	-171	-1,572
Mining	150	243	+45	+62	-14	+93
Construction	10,304	13,527	+3,091	-793	+927	+3,223
Manufacturing	59,037	62,136	+17,711	-14,228	-413	+3,099
Transportation, Communications Utilities	9,743	11,469	+2,923	-945	-253	+1,726
Wholesale and Retail Trade	24,831	35,634	+7,449	+1,316	+2,036	+10,803
Finance, Insurance & Real Estate	5,919	8,673	+1,776	+1,054	-77	+2,754
Services	30,846	49,429	+9,254	+8,668	+648	+18,583
Public Administration	6,043	7,500	+1,813	+375	-731	+1,457
Armed Forces	5,581	4,466	+1,674	-653	-2,138	-1,115
TOTAL	157,476	196,527	47,243	-8,052	-140	+39,051

of people in the most productive 18 to 64 age group. Both of these factors are largely the results of the large migration into the Region during the last several decades. The average migrant tends to be younger and better educated than the average non-migrant. Large numbers of military personnel stationed in the Bay Region also contributed to the large group in the 16 to 64 age group. The counties in the Washington, D. C. area have the highest levels of educational attainment in the Bay Region. Median school years completed, on a county level, ranged from a low of 7.5 years in Southampton County, Virginia, to a high of 15.0 years in Montgomery County, Maryland.

In 1970, there were approximately 3.3 million people employed in the Chesapeake Bay Region. Total employment increased by over three-quarters of a million jobs, or about 30 percent over the 1960 figure. All of the Subregions experienced rates of employment growth greater than the National Rate. The Washington, D. C. Subregion had a 43 percent increase during the period, the highest in the Bay Region. Employment by industrial Sector in the Estuary Area differs significantly from the National employment picture. The Region has a smaller proportion of workers in the "blue-collar" industries such as Manufacturing and Mining and more in the "white-collar" industries such as Public Administration and the Services. Since the white-collar industries tend to be less volatile in terms of changes in employment in response to changes in the National economy, the Estuary Area has had consistently lower unemployment rates over the last several decades than in the Nation as a whole. Also contributing to the relatively stable employment levels in the Bay Region was the large numbers of workers whose jobs depended on constantly expanding Federal government spending.

Per capita income in the Chesapeake Bay Region was significantly higher than in the Nation as a whole. The figure for the Bay Region in 1969 was about 9 percent higher than the National figure. Median family income levels within the Estuary Area ranged from $16,710 in Montgomery County, Maryland (the highest in the Nation), to $4,778 in Northampton County, Virginia. There was a significantly higher proportion of families whose incomes were below the poverty level in the Bay Region than in the Nation as a whole.

A shift-share analysis was conducted on the Chesapeake Bay Region in Table 3-17. Of the total employment change of 760,075 during the 1960-1970 decade, 494,009 of the gain was due to the general growth in the National economy. Another 175,197 of the increase in workers was due to the Estuary Area having a relatively high proportion of workers in fast-growth

industries, e.g., Services and Public Administration. The remaining gain of 90,871 employees was accounted for by the fact that certain industries in the Estuary Area grew faster than the National rate because of an alteration in the Region's access to markets or basic inputs relative to other regions engaged in the same activity.

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CHAPTER IV

ECONOMIC SECTORS

This chapter presents a detailed economic analysis by Economic Sector (Industry). The employment figures in Table 3-14, calculated from 1970 Census data, serve as the basis for this analysis. Emphasis is placed on each Sector's relationship to water resource planning whenever applicable.

Economic activity in the Bay Region can be divided into two types: "basic" or "export" and "service." Basic production is defined as that portion of an industry's product which is sold outside the region. This basic activity plays the central role in a region's development by bringing money into the area and thereby raising incomes. In the Chesapeake Bay Region the Sectors with significant amounts of basic production are: Manufacturing, the Federal government portion of Public Administration, the Armed Forces, Agriculture, and Fisheries. However, various-sized portions of each Sector can also be considered basic. The nature of the "product" of the Public Administration and Armed Forces is public services and defense, respectively, both of which are "exported" throughout the Nation.

The service industries grow in response to demands for special services by both the basic industry (communications, transportation, and other specialized services) and the basic industry worker (retailing, recreation, etc.). In the long run the service industries in a region will grow and decline along with the growth and decline of the export sectors. Generally speaking, for each new job in a basic activity about two more jobs are created in the services. This ratio, however, may vary considerably depending on the basic industry and the region being analyzed.

The industry breakdown used in this report is based on the breakdown in the 1970 Census. There are two main differences between the Census industry classifications and those used by other agencies (such as BEA in Chapter V) based on the Standard Industrial Classification (SIC) code. First, Census employment data is based on place of residence, not place of work. Second, the Census Bureau's "Public Administration" category covers only regular government functions (SIC 9x90) while the SIC "Government" category includes all government workers in all industries. To facilitate comparisons between the data contained in this report and that in other publications, SIC codes are given for the activities included in each Sector.

The SIC system is used to classify establishments by a number code according to the type of activity in which they are engaged. Establishments are classified on a 2-digit, a 3-digit, or a 4-digit basis, according to the degree of information which may be needed. For example, in the Manufacturing Division under Major Group 33 (primary metals) the activities of iron and steel foundries are classified as SIC code 332. At a still more detailed level the operation of steel investment foundries is denoted by SIC code 3324.

MANUFACTURING

The Manufacturing Sector includes activities under SIC Codes 0713 and 20 to 29. There were 524,468 people employed in this Industry in 1970, comprising about 15.9 percent of the total employment in the Estuary Area. This figure was significantly lower than the National figure of 25.3 percent. Manufacturing employment in the Bay Region grew by 5.9 percent during the 1960-1970 period, which was also below the National growth rate of 7.8 percent.

The Manufacturing Sector ranked third in employment in the Estuary Area behind the Service and Retail and Wholesale Trade industries. As shown in Table 3-23, the major two-digit (SIC) employers in this Sector are Transportation Equipment, Chemicals and Allied Products, Printing, Publishing and Allied industries, and the Metal industries (Primary Metals and Fabricated Metal Products). There is also a significant

TABLE 3-23

MANUFACTURING EMPLOYMENT BY ECONOMIC SUBREGION AND TOTAL ESTUARY AREA, 1970

Subregion	Furniture Lumber and Wood Products	Metal Industries	Machinery except Electrical	Electrical Machinery	Transportation Equipment	Other Durable Goods	Food and Kindred Products	Textiles and Fabricated Textile Products	Printing, Publishing and Allied Products	Chemicals and Allied Products	Other Nondurable Goods	Total
17-Baltimore, Md.	6,335	41,069	15,401	27,243	21,782	232,800	29,918	22,533	16,543	15,708	24,587	244,399
Percent of Total	2.6	16.8	6.3	11.1	8.9	9.5	12.2	9.2	6.8	6.4	10.1	100.0
Percent Change (1960-1970)	-25.7	-23.7	+40.1	+28.0	-24.5	+75.7	-16.8	-11.3	+18.5	+4.1	+42.9	+0.2
Absolute Change (1960-1970)	-2191	-12,216	+4404	+5951	-7065	+10,030	-6062	-2881	+2582	+616	+7376	+544
18-Washington, D. C.	1,951	4,083	6,737	9,903	3,057	8,282	5,237	1,704	29,639	4,033	8,379	83,005
Percent of Total	2.4	4.9	8.1	11.9	3.7	10.0	6.3	2.1	35.7	4.9	10.1	100.0
Percent of Change (1960-1970)	-27.8	-58.9	+162.7	+43.6	+42.0	+93.9	-41.9	+24.8	+9.0	+3.0	+201.7	+14.1
Absolute Change (1960-1970)	-752	-5853	+4173	+3009	+904	+4010	-3778	+339	+2455	+117	+5603	+10,227
21-*Richmond, Va.*	4,829	5,469	2,267	904	891	4,096	4,948	5,886	5,196	11,679	21,102	67,267
Percent of Total	7.2	8.1	3.4	1.3	1.3	6.1	7.4	8.8	7.7	17.4	31.4	100.0
Percent of Change (1960-1970)	-21.9	-3.0	+59.4	+49.2	+31.4	-25.4	-25.3	-52.6	+9.0	+28.6	+16.1	+11.6
Absolute Change (1960-1970)	-1354	-172	+846	+299	+214	+831	-1671	+2029	+431	+2598	+2930	+6982
22-Norfolk-Portsmouth, Va.	3,548	1,761	1,109	2,954	32,979	5,687	6,978	1,825	3,160	2,545	5,115	67,661
Percent of Total	5.2	2.6	1.6	4.4	48.7	8.4	10.3	2.7	4.7	3.8	7.6	100.0
Percent Change (1960-1970)	-10.4	-22.3	+46.1	+403.2	+12.6	+176.3	-29.9	+21.4	-12.0	+31.6	+54.3	+14.3
Absolute Change (1960-1970)	-412	-504	+350	+2368	+3684	+3630	-2971	+323	-430	+612	+1800	+8450
Wilmington, Del, SMSA	471	3,671	1,280	1,662	9,547	4,562	1,897	2,957	1,785	25,782	8,522	62,136
Percent of Total	0.8	5.9	2.1	2.7	15.4	7.3	3.1	4.8	2.9	41.5	13.7	100.0
Percent Change (1960-1970)	-23.3	-4.6	-7.8	+100.2	+30.2	+17.4	-38.2	-19.9	-4.8	-1.2	+32.8	+5.2
Absolute Change (1960-1970)	-143	-179	-109	+833	+2215	+675	-1171	-733	-90	-304	+2105	+3099
Total Estuary Area	17,134	56,053	26,794	42,666	68,256	45,907	48,978	34,905	56,323	59,747	67,705	524,468
Percent of Total	3.3	10.7	5.1	8.3	13.0	8.8	9.3	6.7	10.7	11.4	12.9	100.0
Percent of Change (1960-1970)	-22.2	-27.0	+58.8	+41.8	+2.9	+75.4	-24.7	-4.0	+9.6	+5.5	+42.5	+5.9
Absolute Change (1960-1970)	-4,884	-20,700	+9,925	+12,567	+1,943	+19,733	-16,072	-1,455	+4,930	+3113	+20,201	+29,301

Source: U.S. Census of Population: 1970, General Social and Economic Characteristics

amount of employment in the "Other Durable Goods" category (mostly Scientific and Research Equipment along with Stone, Clay, Glass, and Concrete Products) and in the "Other Nondurable Goods" group, (mainly Tobacco Processing, Paper and Allied Products, Rubber and Miscellaneous Plastic Products, and Leather Products).

The influence of the large Government Sector and the maritime environment of theEstuary Area are evident in the structure of the Manufacturing Sector (see Figure 3-10). For example, the Printing and Publishing industry, which provides printing services for the various Government agencies in the Area, employed 10.7 percent of the total Manufacturing workers in the Bay Region as compared to 6.0 percent in the Nation as a whole. The Transportation Equipment industry employed 13.0 percent of the Estuary's total workers in Manufacturing as compared to a National figure of 10.8 percent. Many of these workers are engaged in shipbuilding activities throughout the Bay Region, particularly in the areas around Hampton Roads, Virginia and Baltimore, Maryland.

Despite the fact that the Manufacturing Sector was not as important in the economy of the Estuary Area as in the Nation as a whole (in terms of employment), the Sector still has a great deal of significance in the water resource planning process. First, the navigation channels in the Chesapeake Bay are used by many Area manufacturers as a means of shipping raw materials to their factories. For example, in the Baltimore Area several large iron, steel, and nonferrous metal refining companies have located at or near deepwater sites on the Bay because of their need for metal ores which are transported most economically by water. Second, many manufacturing firms use water in their production process, usually for cleaning or cooling purposes. For example, the steel industry uses approximately 24,000 gallons of water for each ton of steel it produces. This water is often returned to the Bay system either untreated or only partially treated. The Estuary Area is fortunate, from a water quality standpoint, that the Area's economy has a relatively low proportion of high water-using industries in the Manufacturing Sector. Of the five major water-using industries in the United States (Food and Kindred Products, Paper and Allied Products, Chemicals and Allied Products, Petroleum and Coal Products, and the Metal industries) the Chemicals and Allied Products industry and the Food and Kindred Products industry have a higher proportion of workers employed in the Bay Region than in the United States as a whole. (Figure 3-10). This picture changes somewhat when two counties in the Wilmington, Delaware SMSA (New Castle, Delaware, and Salem, New Jersey), which are located on the Delaware River system, are subtracted from the Estuary

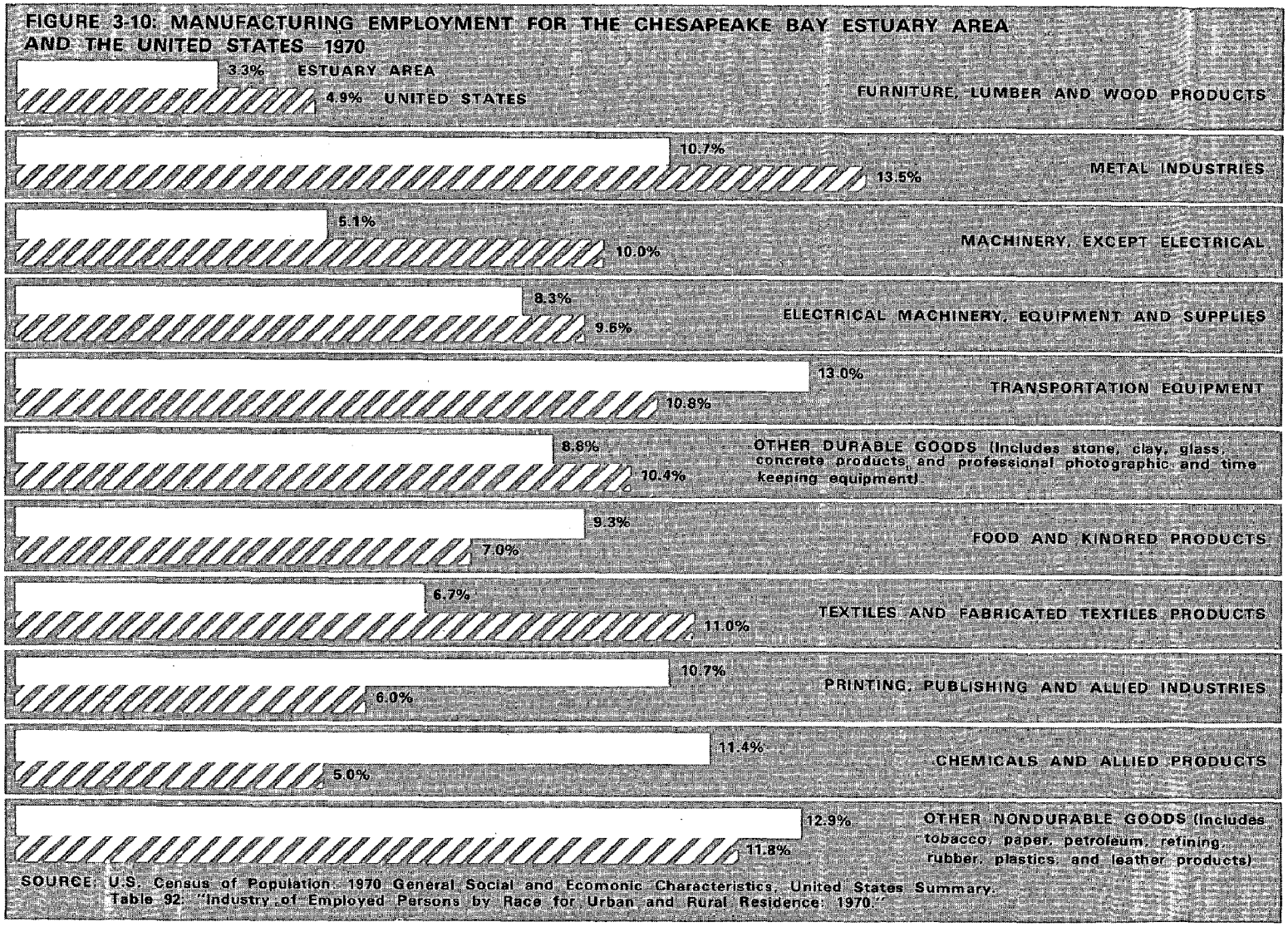


FIGURE 3-10: MANUFACTURING EMPLOYMENT FOR THE CHESAPEAKE BAY ESTUARY AREA AND THE UNITED STATES 1970
3.3% ESTUARY AREA
4.9% UNITED STATES
FURNITURE, LUMBER AND WOOD PRODUCTS
10.7%
13.5%
METAL INDUSTRIES
5.1%
10.0%
MACHINERY, EXCEPT ELECTRICAL
8.3%
9.6%
ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES
13.0%
10.8%
TRANSPORTATION EQUIPMENT
8.8%
10.4%
OTHER DURABLE GOODS (Includes stone, clay, glass, concrete products, and professional photographic and time keeping equipment)
9.3%
7.0%
FOOD AND KINDRED PRODUCTS
6.7%
11.0%
TEXTILES AND FABRICATED TEXTILES PRODUCTS
10.7%
6.0%
PRINTING, PUBLISHING AND ALLIED INDUSTRIES
11.4%
5.0%
CHEMICALS AND ALLIED PRODUCTS
12.9%
11.8%
OTHER NONDURABLE GOODS (Includes tobacco, paper, petroleum, refining, rubber, plastics, and leather products)
SOURCE: U.S. Census of Population: 1970 General Social and Ecomonic Characteristics, United States Summary, Table 92: "Industry of Employed Persons by Race for Urban and Rural Residence: 1970."

Area totals. The proportion of workers in the Chemicals and Allied Products industry decreases significantly from 11.4 percent of the total Manufacturing labor force to 7.4 percent of the total. At the same time, however, the Food and Kindred Products industry increases slightly from 9.3 percent to 10.1 percent. There were only minor changes in the proportion of workers in other industries after the adjustment.

Industrial water demands on the Bay system are less significant in the Chesapeake Bay as a whole than in many other estuaries in the United States. This is due to the fact that Manufacturing is a relatively low proportion of total economic activity in the Bay Region and that the majority of the Manufacturing activity that does exist is not of the type which requires large volumes of water. For example, in the Delaware Bay industrial wastes have virtually destroyed that body of water's usefulness for commercial and sports fisheries. However, problems do develop in certain areas of the Bay where manufacturing activity is concentrated. Problems can also occur with industry-related maritime activity. For example, the Chesapeake Bay is one of the major transshipment routes along the East Coast for the petrochemical industry. As a result of this type of activity, the Coast Guard reported that over 1 million gallons of oil were spilled into the Bay in 1970.

Over half (58.4 percent) of the total Manufacturing Sector employment is located in the Baltimore or Wilmington SMSA's. Other concentrations of Manufacturing activity are located in the Washington and Richmond SMSA's and in the Hampton Roads area. The heavy water-using industries are concentrated in the Upper Bay and in the counties bordering on the Delaware Bay. Employment in the Chemical and Metal industries is centered around Baltimore, Wilmington, and Richmond. Food and Kindred Products employment is concentrated on the Eastern Shore, in the Washington SMSA, and in Norfolk. Other significant concentrations of Manufacturing industries within the Estuary Area are: Printing and Publishing and the two Machinery categories in the Washington Subregion, Transportation Equipment in the Norfolk-Portsmouth Subregion, and Chemicals, and Tobacco processing in the Richmond Subregion. These industries will be discussed in more detail in the Subregion analysis below. Figure 3-11 illustrates the distribution of Manufacturing employment throughout the Bay Region by county. Figure 3-12 shows the county distribution of employment in heavy water-using industries (Metals, Food and Kindred Products, and Chemicals and Allied Products).

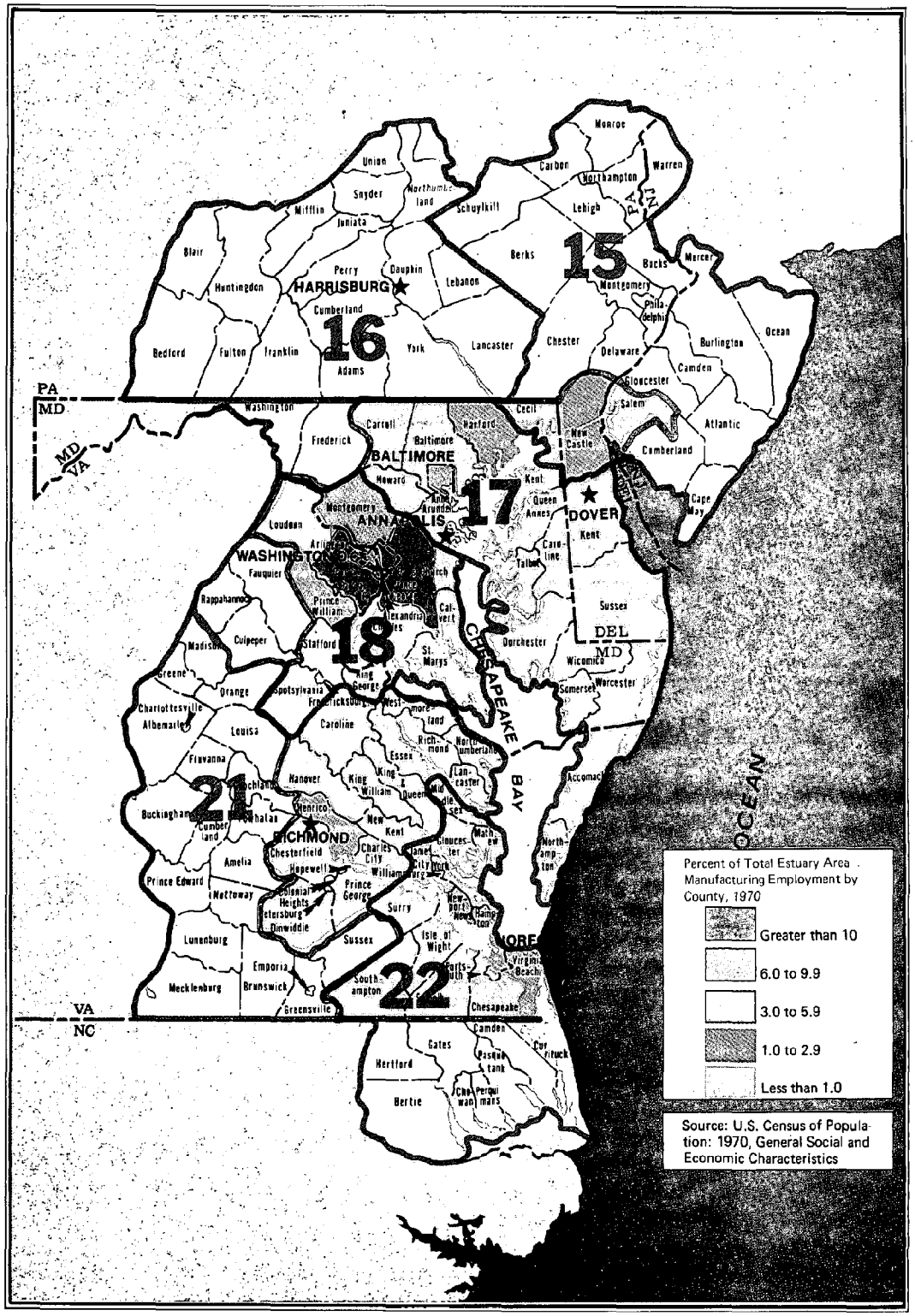

HARRISBURG
BALTIMORE
ANNAPOLIS
DOVER
WASHINGTON D.C.
RICHMOND
15
16
17
18
21
22
PA
MD
VA
NC
DEL
CHESAPEAKE BAY
OCEAN
Percent of Total Estuary Area Manufacturing Employment by County, 1970
Greater than 10
6.0 to 9.9
3.0 to 5.9
1.0 to 2.9
Less than 1.0
Source: U.S. Census of Population: 1970, General Social and Economic Characteristics

FIGURE 3-11

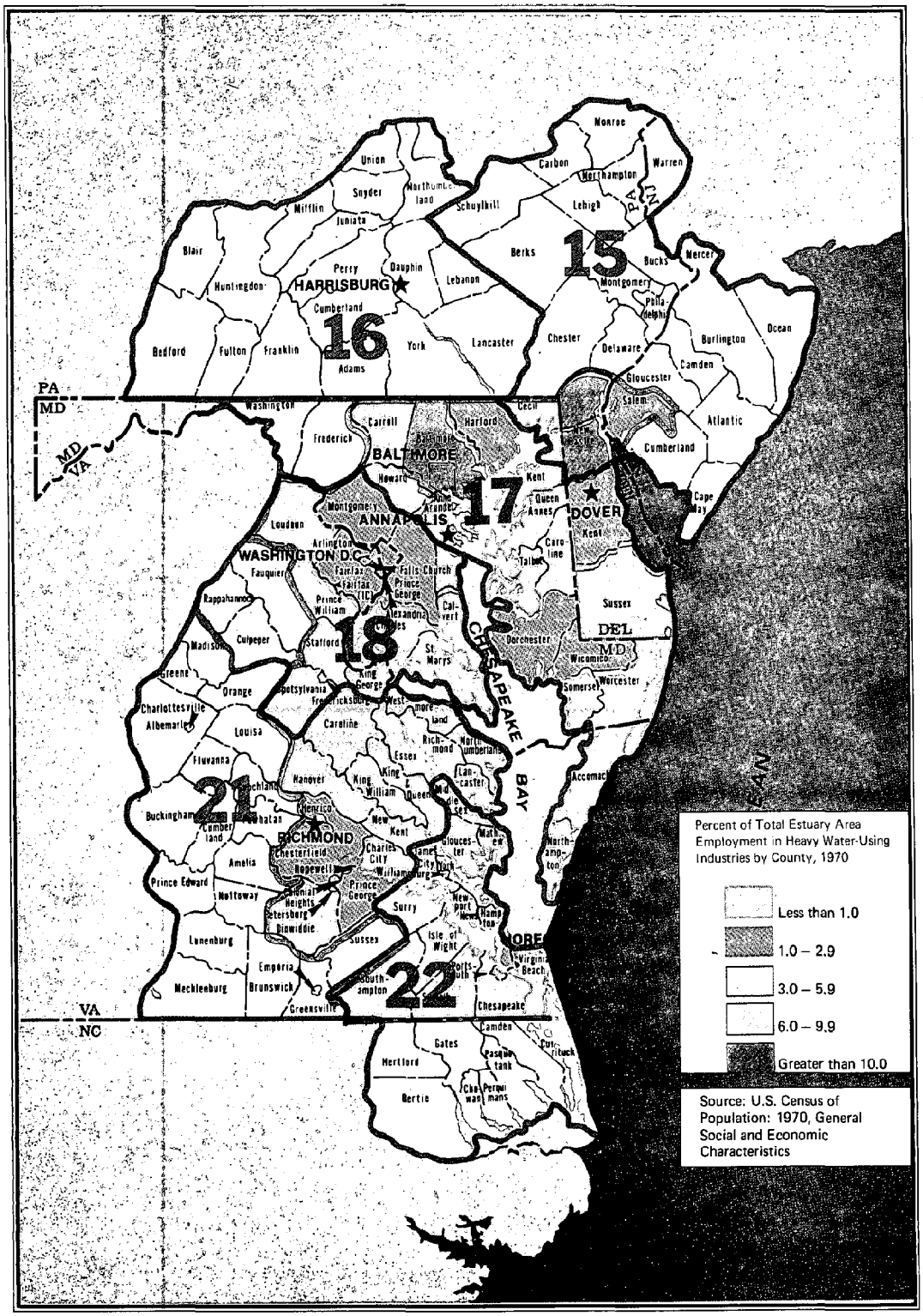

15
16
17
18
21
22
HARRISBURG
BALTIMORE
ANNAPOLIS
WASHINGTON D.C.
DOVER
RICHMOND
CHESAPEAKE BAY
PA
MD
VA
NC
DEL
Percent of Total Estuary Area Employment in Heavy Water-Using Industries by County, 1970
Less than 1.0
1.0 – 2.9
3.0 – 5.9
6.0 – 9.9
Greater than 10.0
Source: U.S. Census of Population: 1970, General Social and Economic Characteristics

FIGURE 3-12

BALTIMORE, MARYLAND SUBREGION

The City of Baltimore is one of the oldest and most important manufacturing centers in the United States. The Baltimore Subregion, consequently, dominates manufacturing activity in the Estuary Area. There were a total of 244,399 workers employed in the Manufacturing Sector of the Subregion or about 46.6 percent of the total Sector employment in the Bay Region in 1970. The Baltimore Subregion has a well-diversified Manufacturing Sector with no one industry having more than 17 percent of the total Sector employment. However, employment rose by only 0.2 percent, or by 544 workers, during the 1960-1970 period, significantly lower than both the National and total Estuary Area rates. There were large absolute increases in the "Other Durable Goods" category (mostly the Stone, Clay, and Gravel and the Scientific Instruments industries), in the "Other Nondurable Goods" category (mainly in Rubber and Miscellaneous Plastic Products), and in the two Machinery categories. These gains, however, were almost offset by decreases in the Metal industries, Transportation Equipment, and Food and Kindred Products categories.

The Manufacturing Sector accounted for 24.4 percent of the total employment in the Baltimore Subregion. It was the second most important industry in the Subregion in terms of numbers employed in 1970. As a large manufacturing center, Baltimore City has certain locational advantages over areas where there is no such concentration of industrial activity. This is the result of the wide range of services readily available to a firm which locates in such an urban-industrial center. These factors are called "agglomeration economies" in regional economics. One of the most important services provided to these firms is an excellent transportation system in general and the Port of Baltimore in particular. As a result, manufacturing activities in the City and Subregion often reflect this availability of water transportation. The following is an analysis of the major two-digit (SIC) manufacturing industries in the Subregion along with some of the locational advantages of the Subregion for each industry.

a. Metal Industries. (SIC 33 and 34). The area around Baltimore has had a long history of activity in the iron and steel industry. The Metal Industries have experienced sharp declines in employment in recent years (23.7 percent between 1960 and 1970) due to increased automation in the area's mills. Major employers in the Primary Metals category are the Bethlehem Steel Company, the Armco Steel Company, the Kennecott Refining Corporation, and the Eastern Stainless Steel Company.

Until recently, the Bethlehem Steel Company's blast furnace at its Sparrows Point plant was the largest in the world. The Fabricated Metal Products industry tends to locate near its primary metal suppliers and near major markets, making the Baltimore area a natural location. This type of activity is especially attracted to the Subregion because of the abundance of food processing plants producing canned fruits and vegetables. There are also many smaller firms in this category specializing in fabricated structural steel, fabricated plate works (boiler shops) and sheet metal work.

b. Food and Kindred Products (SIC 20 and 0713). There are two groups of manufacturers in this industry. The first group is drawn to the area because of the excellent transportation facilities and because of its proximity to the major Eastern and Midwestern markets. These major firms include a cane sugar refinery, two distilleries, and several breweries. Most of the employment in these firms can be classified as basic. The other group of manufacturers are attracted to the Baltimore Subregion because of its proximity to areas producing vegetables, poultry, and seafood. Most of this employment is located on the Delmarva Peninsula and most of the firms, with a few exceptions, are small (less than 200 employees). Employment is generally seasonal; wages are low, and a high proportion of the work force is female. Oysters, clams, crabs, and certain finfish, all abundant in the Chesapeake Bay Region, are processed by many of these firms. Tomatoes are the principal crops processed by the vegetable canning industry with corn, beans, cucumbers, and strawberries also being important. The poultry processing category also employs many people on the Eastern Shore. This is not surprising since the Delmarva Peninsula is one of the most important poultry raising areas in the United States.

The Food and Kindred Products industry has also experienced rather sharp declines in employment between 1960 and 1970 due to technological improvements in the food processing industry. Several counties on the Eastern Shore have been hard hit by this decline.

c. All Machinery (SIC 35 and 36). Employment in these two industries, especially electrical machinery, are heavily influenced by Department of Defense procurement policies. In general, employment is concentrated in a few firms located in the Baltimore SMSA. The industries require a proximity to a supply of primary metals, good transportation systems to other urban areas, and a large number of services from other manufacturing firms. Many of the firms in the Electrical Machinery industry also carry on research and development work as well as their manufacturing activities. Baltimore

enjoys a locational advantage in this type of activity due to its proximity to the Washington, D.C. research and development (R & D) complex. Major employers in the Subregion are Crown Cork and Seal Company, Incorporated; Black and Decker Manufacturing Company; and Koppers Company, Incorporated, in the Non-Electrical Machinery category and the Bendix Corporation, the Western Electric Company, and the Westinghouse Corporation in the Electrical Equipment industry. The two industries experienced significant increases in employment during the 1960-1970 period due to the large increases in Defense contracts during the period and because of the general rise in demand for durable goods such as kitchen appliances, radios, and power tools.

d. Transportation Equipment (SIC 37). This is another industry which, except for several General Motors plants, depends almost entirely on Defense and other Federal contracts. Most of the firms produce either aircraft, space vehicles, or ships. Again, the Baltimore subregion has a locational advantage in these activities due to its excellent transportation facilities, and its proximity to the Washington R & D complex. Major employers in this industry are the Fairchild Hiller Corporation and the Martin Marietta Corporation. The deepwater port facilities offered by the Port of Baltimore make the area an excellent location for shipbuilding activities. The Bethlehem Steel shipyard is located in Baltimore County, and is by far the largest employer of the many shipbuilding firms in the Baltimore Subregion, producing both for commercial and military interests. Other shipyards produce small pleasure and fishing craft. This industry has also suffered sharp declines in employment due to decreases in related space and military contracts during the 1960-1970 decade.

e. Textiles and Fabricated Textile Products (SIC 22 and 23). Baltimore City has historically been an important producer of textiles and apparel due to its proximity to Southern cotton sources. This industry has remained important in the area although during the last several decades manufacturers have turned more toward the synthetic fibers. The production of men's clothing is especially important in the area since this type of activity is not attracted to style centers as is the manufacture of women's clothing. The industry in the Baltimore area has lost some of its attractiveness to new firms because of increasing labor costs in this labor-intensive industry. As a result, there were slight decreases in employment during the 1960-1970 decade.

f. Other Industries. The Furniture and Wood products industry is attracted to the area because of Baltimore's function as a transshipment point for lumber, and because of the

nearness of major Eastern markets. The Scientific Instruments industry is drawn to the area because of its proximity to the R & D complex in the Washington, D.C. area and because of the numerous manufacturing services offered in and around Baltimore City. The Subregion also has a locational advantage for the Chemical and Allied Products industry because of Baltimore City's role as a transportation junction point, and particularly because of the availability of waterside plant sites since the bulky raw materials used in this industry are often most economically transported to the factory by water.

WASHINGTON, D.C. SUBREGION

Because of the District of Columbia's primary function as the Nation's Capital, the Washington Subregion has never developed into an important manufacturing center. The majority of the manufacturing activity which has become established in the area is related to the activities of the Federal Government. For example, the Printing and Publishing industry, which provides its services to the numerous Federal agencies in the area, employs over one-third of the Manufacturing workers in the Subregion. The large defense-related R & D in the Washington area is also a significant source of manufacturing employment in the Subregion although Baltimore has benefited to an even greater extent because of its well-established manufacturing complex combined with its proximity to Washington.

The Manufacturing Sector employed 83,005 workers in 1970. This amounted to about 15.8 percent of the total Sector employment in the Estuary Area. Employment experienced modest gains during the 1960-1970 period. The 14.1 percent increase was significantly higher than the Regional rate. The largest increases were in the two Machinery categories and in Printing and Publishing. There were decreases, however, in the Metal Industries and in Food and Kindred Products.

The Manufacturing Sector accounted for 6.3 percent of the total employment in the Washington Subregion in 1970. It was the fourth most important industry in the Subregion in terms of numbers employed. Listed below are some of the major two-digit (SIC) manufacturing industries in the Washington Subregion.

a. Printing and Publishing (SIC 27). The Washington Subregion contains the majority (52.6 percent) of the Estuary Area's employment in this industry. This category is also,

by far, the most important in the Manufacturing Sector in the Subregion. This industry is attracted to the Subregion because of the concentration of Federal Government activities with their tremendous demands for printing services. Almost half of the industry's employment is located in Prince Georges and Montgomery Counties, Maryland. Most (about 75 percent) of the employment is classified as commercial printing with the remainder in the newspapers and periodicals category. The industry experienced moderate employment gains during the 1960-1970 period (about 9.0 percent). This was lower than the total Manufacturing increase for the Subregion. Improvements in output per worker in the industry have had a dampening effect on employment during the last decade.

b. Electrical and Non-Electrical Machinery (SIC 35 and 36). The two machinery categories are examples of industries which are attracted to the area because of the defense-related R & D complex in the Washington area. The firms in these groups are either directly involved in research and development activities or they are suppliers to such firms. Most of them are located in the Maryland and Virginia suburbs of Washington, D.C. With a few exceptions, like Vitro Laboratories, these firms are relatively small employers. Major products include electronic communication equipment, computer equipment, warfare and aerospace systems, information management systems, and peripheral computer equipment. The two industries together experienced a 75.1 percent employment increase during the 1960-1970 decade.

c. Other Industries. The Fabricated Metals industry is the major employer in the Metal Industries category. Activities are oriented toward supplyng ornamental metal work, heating ducts, metal doors, metal molding and trim, and other products related to the construction industry.

The Food and Kindred Products industry, serving the large urban population in the area, is also relatively important although most of the agriculture products are grown outside of the Subregion. The seafood processing industry is also important in the area. The Potomac and Patuxent Rivers, both located in the Subregion, are important sources of both shellfish and finfish.

RICHMOND, VIRGINIA SUBREGION

The tobacco industry is at the hub of the Richmond Subregion's Manufacturing Sector. The City of Richmond is one of the major tobacco processing centers in the United States. This industry has attracted several other types of industries to the area oriented towards providing needed services and products to the tobacco industry. For example, the Paper and Primary Metals industries supply the basic materials (paper and aluminum foil) for cigarette wrappings and containers.

There were 67,267 workers employed in the Manufacturing Sector in 1970 or about 12.8 percent of the total Bay Region employment in the Sector. Employment rose by 11.6 percent during the 1960-1970 decade, or by 6,981 workers. This was higher than both the Reginal and National rates. The greatest increases were in Chemicals and Allied Products, and Textiles and Fabricated Textile Products. Decreases occurred in Food and Kindred Products, and Furniture, Lumber, and Wood Products. The last two categories were the only ones in the Manufacturing Sector to show declines during the period.

The Manufacturing Sector accounted for 22.3 percent of the total employment in the Subregion. It was the second most important Sector in the Subregion, in terms of numbers employed. Some raw materials for the area's Chemical industry are shipped up the James River to Richmond and Hopewell. Utilization of the Port has been hampered by the relatively shallow 25-foot depth of the channel. Only about 10 percent of today's oceangoing vessels are able to navigate a channel of this depth. The following are some of the important industries in the Richmond Subregion.

a. Tobacco Industry (SIC 21). Most of the important tobacco companies have major plants located within the Richmond Subregion. The industry was originally attracted to the region because of the abundance of tobacco plantations along the James River and its tributaries. Tobacco cultivation has since shifted to the west and south; but, Richmond and Petersburg have remained important tobacco processing centers largely because of the ready availability of certain required manufacturing services and materials (aluminum foil, cellophane, paper products, and packaging services) and because of a large supply of semi-skilled female labor.

Census data does not break down manufacturing employment into enough detail to show the numbers of workers in the tobacco industry. Tobacco industry workers are included in the "Other

Nondurable Goods" category. However, partial data shows that employment in this industry has remained fairly constant during the 1960-1970 period.

b. Chemicals and Allied Products (SIC 28). The major products of this industry are plastic resins, synthetic fibers, basic chemicals, and fertilizers. The two largest firms are the Allied Chemical Corporation, the DuPont Company, Incorporated, and the Hercules Powder Company. A large part of the output of this industry is cellophane used in packaging cigarettes. The major locational advantage for the industry is the availability of raw materials, some of which are transported by barge up the James River.

The industry experienced sharp gains during the 1960-1970 period. The increases were due to the general growth in the industry nationwide and the increased demands for explosives during the Vietnam War.

c. Printing, Publishing, and Allied Industries (SIC 27). A large part of the employment in this industry (about one-third) is engaged in supplying printing services for the tobacco industry and the State and local governments. The rest publishes newspapers and periodicals for local markets. Employment in this category increased slightly during the 1960-1970 period. An increased demand for printing services was almost offset by improvements in output per worker.

d. Metal Industries (SIC 33 and 34). This category is dominated in the Subregion by the Reynolds Aluminum Company. One of the major products of the firm is aluminum foil, part of which is used by the tobacco industry for packaging cigarettes. Most of the production, however, is shipped out of the Subregion. The Reynolds Company also produces extruded aluminum products which have stimulated the development of an important Fabricated Metals industry in the Subregion. Major products of the category include metal doors and sashes, hardware, heating equipment, structural steel, and boilers. Several gray iron foundries are also located in the Subregion.

There was a slight decline in employment in the Metal Industries during the 1960-1970 period due to increased automation in the plants.

e. Other Industries. The Textile and Furniture industries are attracted to the Subregion because of low labor costs and the area's central location with respect to markets. An additional advantage for the Furniture industry is the ready supply of lumber. The major Textile firms produce broadwoven fabrics and children's and men's clothing. The output of the

Machinery industry is divided between tobacco processing machinery and food processing equipment. The Food and Kindred Products industry is also an important employer in the Subregion. The canning of fruits and vegetables, and the preparation of seafood and meats are important activities. There is also a group of large firms producing biscuits, cookies, and related products which are marketed throughout the East.

NORFOLK-PORTSMOUTH, VIRGINIA SUBREGION

The structure of the Manufacturing Sector in the Norfolk-Portsmouth Subregion is dominated by the Subregion's coastal location. The Transportation Equipment industry is by far the most important employer in the Sector. The majority of workers in this industry are employed in Shipbuilding activities. The shipyards, in turn, have attracted machinery and fabricated metal plants. The existence of four deepwater ports in the Subregion (Newport News, Norfolk, South Norfolk, and Portsmouth) have attracted some firms in the Chemical and Automobile industries.

The Manufacturing Sector employed 67,661 workers in 1970 or about 12.9 percent of the total Sector employment in the Estuary Area. Manufacturing experienced a moderate increase of 14.3 percent during the 1960-1970 period. This was higher than the rates for both the Bay Region and the Nation. Important increases occurred in the Electrical Machinery and Transportation Equipment categories. Only three industries experienced losses during the period--Food and Kindred Products, the Metal Industries, and Printing and Publishing.

The Manufacturing Sector accounted for 14.6 percent of total employment in the Norfolk-Portsmouth Subregion. It was the fourth most important employer in the Subregion. Some of the important two-digit (SIC) Manufacturing industries are listed below.

a. Transportation Equipment (SIC 37). About 90 percent of the employment in this industry is accounted for by shipbuilding and repair industries. The three major employers are the Newport News Shipbuilding and Dry Dock Company, Incorporated, the U. S. Navy, Norfolk Shipyard, and the Norfolk Shipbuilding and Dry Dock Corporation. There are also a number of smaller firms which handle small fishing and pleasure crafts. Most of the rest of the employment in the Transportation Equipment industry is in a Ford Motor Company assembly plant located in the Norfolk area.

This industry is extremely dependent on Federal Defense spending and on the Merchant Marine subsidy program. Norfolk is a major center for the Navy's Atlantic Fleet operations. The Vietnam War and an increased emphasis on rebuilding and expanding the Nation's Merchant Marine Fleet led to an increase of almost 4,000 employees during the 1960-1970 decade.

b. Food and Kindred Products (SIC 20 and 0713). Most of the firms in this industry are engaged in the processing of vegetables, fruits, seafood, and especially peanuts. These commodities are harvested in abundance in the Subregion. There are also several bakeries and a few firms producing bottled and canned soft drinks, mostly for local consumption. Most of the employment in the industry is engaged in producing for export out of the Subregion.

The industry suffered sharp losses during the 1960-1970 decade due to increased automation in the plants. Because of the relatively high prevailing wages in the Subregion (due to competition from the high-wage Transportation Equipment industry), firms in the Subregion have more incentive to mechanize than plants in other areas.

c. Other Industries. Much of the employment in the Machinery categories is engaged in work relating to the Shipbuilding industry. Several firms in these industries are operated by the same firms which operate the shipyards. Several moderately sized firms produce miscellaneous electrical apparatus and air-conditioning and refrigeration machinery. The Printing and Publishing industry produces for local markets with about 75 percent of the workers employed in publishing newspapers. The Fabricated Metals industry is still another which is heavily oriented toward shipbuilding activities. There are also firms producing metal doors, sashes, and frames. The Chemical industry is attracted to the area because of the excellent transportation facilities and the availability of raw materials (especially oyster shells). The Agricultural Chemical industry employs over 60 percent of the workers in this category.

WILMINGTON, DELAWARE SMSA

There were a total of 62,136 workers employed in the Manufacturing Sector of the Wilmington SMSA, or about 11.8 percent of the total Sector employment in the Estuary Area in

1970. Employment in the Sector increased by a modest 5.2 percent during the 1960-1970 period. The most significant increases occurred in the Transportation Equipment and Chemicals and Allied Products Industries. Losses took place in Food and Kindred Products and in Textiles and Fabricated Textile Products.

The Manufacturing Sector accounted for 31.6 percent of the total employment in 1970 in the SMSA, making it the most important employer in the area. Because the industries in the Wilmington Subregion, except for Cecil County, Maryland, are not located on the Chesapeake Bay, a detailed analysis of the Manufacturing Sector in this Subregion is not presented. Important industrial categories are discussed briefly below, however, with emphasis on Cecil County.

The Manufacturing Sector of the Wilmington SMSA is based on the Chemical and Allied Products Industry. The oldest and largest of the chemical companies, E. I. du Pont de Nemours, was founded along the Brandywine Creek in New Castle County, Delaware, in 1802. The Company still has its headquarters and several large plants employing many thousands of people in the area. In addition, a plant producing rocket propellents is one of the largest employers in Cecil County, Maryland. The Chemical Industry is attracted to the area because of the availability of water transportation, raw materials, and the large quantities of fuel (mostly petroleum) needed in the production process. The Transportation Equipment industry (mostly shipbuilding) is also attracted to the area because of its coastal location. The largest firm in the Electrical Machinery Industry is the R. M. R. Corporation in Cecil County which produces electric motors.

PUBLIC ADMINISTRATION

The Public Administration Sector includes civilian workers in the postal service and Federal, State, local, and international governments (SIC codes 43, 91, 92, 93, 94, 95, 96, and 97). In 1970, there were 475,448 employees in this industry, or about 14.4 percent of the total employment in the Estuary Area. This is significantly higher than the figure of 5.5 percent for the United States as a whole. Employment in this Sector grew

36.2 percent during the 1960-1970 period which was above the 31.5 percent rate of growth for the Nation.

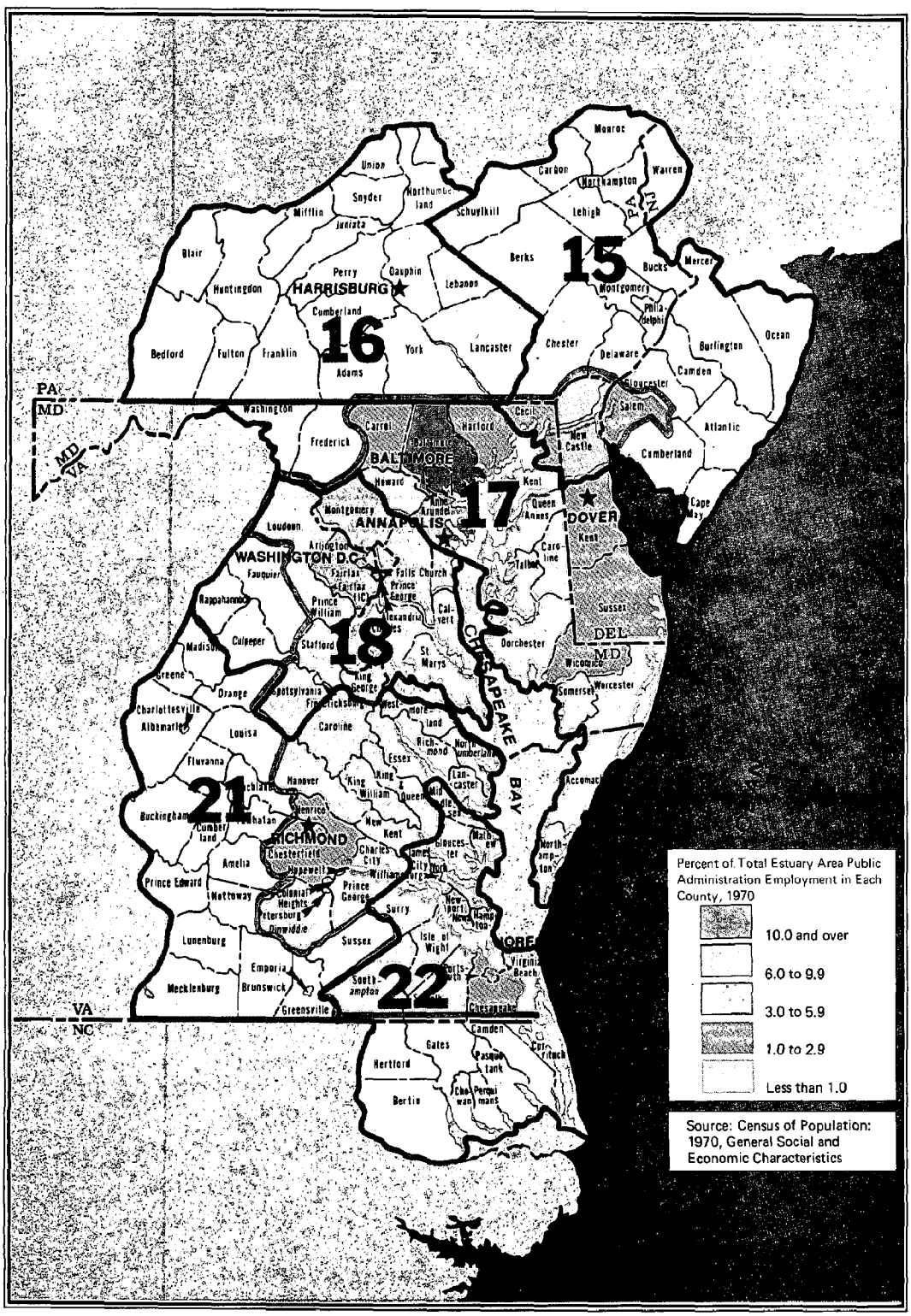
The Public Administration Sector ranked fourth in total employment in the Estuary Area. However, for several reasons this industry is far more important to the Region's economy than these employment figures indicate. First, earnings are higher than average in this Sector. These high, steady paychecks have helped to stimulate other Sectors of the economy, especially the Retail Trade and Service industries. Second, the Federal portion of the Public Administration Sector can be thought of as a "basic" industry since it exports its "product" (pubic services) to the entire Nation, therefore bringing money into the Region and raising incomes.

The bulk of the total Public Administraton employment in the Estuary Area (almost 66 percent) is located in the Washington, D.C. Subregion. Other concentratons of workers are located in the Richmond, Virginia vicinity, throughout much of the Baltimore, Maryland SMSA, and in the major urban areas of the Norfolk-Portsmouth Subregion. Figure 3-13 illustrates the percentage of total Estuary Area Public Administration employment which is located in each county.

During recent decades, employment in the Federal, State, and local governments has experienced impressive increases as population has continued to grow, and these governments have increased their regulatory and administrative duties. This has been especially true for the last two categories. For example, between 1950 and 1970 Federal government employment increased by about 42 percent while State and local employment increased by approximately 120 percent. Employment in the Public Administration Section has increased right along with this general increase in government employment. Since three State capitals (Annapolis, Maryland; Richmond, Virginia; and Dover, Delaware) are located in the Estuary Area, the Region's economy has greatly benefited from this expansion.

BALTIMORE, MARYLAND SUBREGION

The Baltimore Subregion ranked second in the Estuary Area in employment in the Public Administration Sector with a total of 88,586 workers in 1970. This amounted to 18.6 percent of the total Sector employment in the Region. Employment rose by 53.3 percent during the 1960-1970 period, significantly higher than both the National and Regional rates, indicative of a high proportion of workers on the State and local levels.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HARRISBURG
BALTIMORE
ANNAPOLIS
DOVER
WASHINGTON D.C.
RICHMOND
CHESAPEAKE BAY
PA
MD
VA
NC
DEL
Percent of Total Estuary Area Public Administration Employment in Each County, 1970
10.0 and over
6.0 to 9.9
3.0 to 5.9
1.0 to 2.9
Less than 1.0
Source: Census of Population: 1970, General Social and Economic Characteristics

FIGURE 3-13

The Public Administration Sector accounted for 8.8 percent of the total employment in the Baltimore Subregion in 1970. Two State capitals, Annapolis and Dover, are located in this Subregion and Baltimore City itself has a large number of Federal, State, and city government employees. Roughly, 40 percent of the workers in this Sector were employed by the Federal government with an equal proportion employed on the local level. The remaining 20 percent worked for the State governments.

The major employers in the Federal portion of the Public Administration Sector are the Post Office and the Social Security Administration in Baltimore County which is the National Headquarters for the Social Security Program. There are numerous other Federal employees in this Sector working as support personnel at the many armed forces installations throughout the Subregion (see the Armed Forces Section below). Baltimore City has the largest concentration of Maryland State employees (about 28 percent of the total), with Baltimore (16 percent), Anne Arundel (13 percent), and Carroll (5 percent) Counties also having significant numbers of state workers. The two Delaware counties in the Subregion, Kent and Sussex, provide about 38 percent of the total Delaware State employment, most of this in the Dover area. There is an insignificant amount of State employment in the Virginia portion of the Baltimore Subregion. Employment on the local level is roughly proportional to the population in each locality.

WASHINGTON, D.C. SUBREGION

The Washington Subregion was first in the Bay Region in employment in the Public Administration Sector with a total of 312,012 workers in 1970. This amounted to 65.6 percent of the total Sector employment in the Estuary Area. Employment increased by 33.0 percent during the 1960-1970 period. This rate was lower than both the National and Estuary growth rates due to the fact that Sector employment in the faster growing State and local governments was a relatively small proportion of total employment in Public Administration.

The Public Administration Sector accounted for 23.5 percent of total employment in the Washington, D.C. Subregion. It was the second most important employer in the Subregion in 1970. The Federal government was the major employer in this Sector with roughly 75 percent of total employment. This is to be expected since almost all the Federal departments and agencies have their National headquarters in the Capital Area.

Although the Public Administration Sector was only ranked second in importance in the Washington, D.C. Subregion, this Sector (and other related Federal activities) have dominated the economy of the area since the Civil War. Nearly all Sectors of the Subregion's economy, but especially the Service, Manufacturing, Finance, and Communications industries, have strong ties with the Federal government. This point will be discussed further in the write-ups dealing with each Sector.

In recent years, a trend has developed away from the historic centralization of Federal activities in the District of Columbia. New Federal jobs have tended to locate in the Washington suburbs and in other parts of the country rather than in the District itself. For example, "at place" total Federal employment increased 25 percent in the Capital City during the 1961-1969 period. In the Maryland and Virginia suburbs the increase was approximately 51 percent. However, the majority of the Federal jobs (about 67 percent) in the Subregion were still located in the District. The thirteen counties and independent cities in the Subregion employed significant numbers of people at the local level (roughly 20 percent of total Sector employment). Several State offices employed relatively small numbers of workers in both Maryland and Virginia.

RICHMOND, VIRGINIA SUBREGION

The Richmond Subregion ranked fourth in Public Administration employment in the Estuary Area with a total of 22,517 employees in 1970, or 4.7 percent of total Sector employment in the Bay Region. Employment in this industry rose by 44.2 percent during the 1960-1970 period. This growth rate was higher than both the National and Regional rates due to the high proportion of State and local Public Administration workers in the Subregion.

The Public Administration Sector accounted for 7.5 percent of the total employment in the Richmond Subregion in 1970. Richmond is the State capitol of Virginia and consequently the State portion of total Public Administration employment is significant (about 38 percent). Since there are 15 counties and four independent cities in the Subregion, local government employment is also very important in the area, comprising about 37 percent of the total. In addition to the usual postal workers, there was significant Federal employment in this Sector at the several large armed forces installations in the Subregion. Federal workers made-up about 25 percent of total industry employment.

NORFOLK-PORTSMOUTH, VIRGINIA SUBREGION

There were 44,833 workers employed in the Public Administation Sector of the Norfolk-Portsmouth, Virginia Subregion or 4.7 percent of total Sector employment in the Estuary Area. This was the third highest total of any Subregion. Employment in this industry grew at a relatively low 27.3 percent, lower than both the National and Bay Region rates. This reflects the high proportion of employees in the slower-growing Federal part of the Public Administration Sector.

This Sector accounted for 9.7 percent of the total employment in the Norfolk-Portsmouth Subregion in 1970. The majority of the workers were employed in the Hampton Roads and Virginia Beach sections of the Subregion. The Federal government employed roughly 70 percent of the workers. Most of these were employed as support personnel in the numerous armed forces bases located throughout the Subregion. Approximately 25 percent of the workers in the Sector were employed by local governments. There are 10 county and eight independent cities in the subregion. The Virginia State government employs a relatively minor percentage (roughly five percent) of the Sectors' total employment in several Regional Offices located in the Subregion.

WILMINGTON, DELAWARE SMSA

There were 7,500 Public Administration employees in the Wilmington, Delaware SMSA, the lowest number of any Subregion in the Estuary Area. This figure represented 1.6 percent of the total Estuary employment in this Sector. There was an increase in employment of 24.1 percent between 1960 and 1970, the lowest rate of growth for this Sector in the Estuary Area.

Public Administration accounted for 3.8 percent of the total employment in the Wilmington SMSA. Employment was fairly evenly split between the State and local governments with roughly 40 percent working at the State level and about 35 percent at the local level. Almost of all of the State employment was in New Castle, Delaware. In fact, about 62 percent of the total Delaware State employment is located in this county despite the fact that the State's capitol is in Dover.

AGRICULTURE, FORESTRY, AND FISHERIES

The Agriculture, Forestry, and Fisheries Sector included SIC codes 01, 02, 07, 08, and 09. Employment in 1970 in these industries totaled 54,084 or 1.6 percent of all those employed in the Estuary Area. This represented a 27.9 percent decrease over the 1960 figure compared to a decline of 37.9 percent in the United States as a whole. The National employment in this sector, while decreasing at a more rapid rate than that within the Estuary Area, still constituted a larger proportion of the total labor force (3.6 percent as compared to 1.6 percent for the Bay Study Area).

a. Agriculture. Next to Mining, the Agriculture, Forestry, and Fisheries Sectors employed the least number of people within the Estuary Area. Most of these (67.8 percent or 36,686 people) were engaged in Agriculture. Forestry and Fisheries employment accounted for the remaining 32.2 percent of the total labor force in this Sector (17,398 people). The Estuary Area has long been an important agricultural region but increased urbanization in recent years has affected both the type of agriculture and the nature of the commodities produced. At present, the Region has a varied agriculture.

The value of all farm products sold by commercial farms in 1969, by county, is shown in Figure 3-14. Wicomico and Worcester Counties, Maryland, and Sussex County, Delaware, had the highest value of products sold. Other large portions of the States of Maryland and Delaware also maintained comparatively high values. The value of both crops and livestock and poultry in the Chesapeake Bay Study Area Subregions for 1954, 1959, 1964, and 1969, is shown in Table 3-24. For the Estuary Area as a whole, the value of both crops and livestock and poultry has steadily increased. For example, total value of all agricultural products rose over 61 percent between 1954 and 1969. Likewise, each of the Subregions has experienced an increase in value of agricultural products since 1954. Livestock, poultry and their products have traditionally provided a greater income for the Area than have crops. Figure 3-15 shows the value of production by county, for livestock and poultry. In similar fashion, Figure 3-16 shows the value of crops including nursery products and hay.

The Estuary Area as in the case of other areas of the U.S. and especially the Eastern Seaboard Region, has been undergoing a process of urbanization. Not only has the amount of

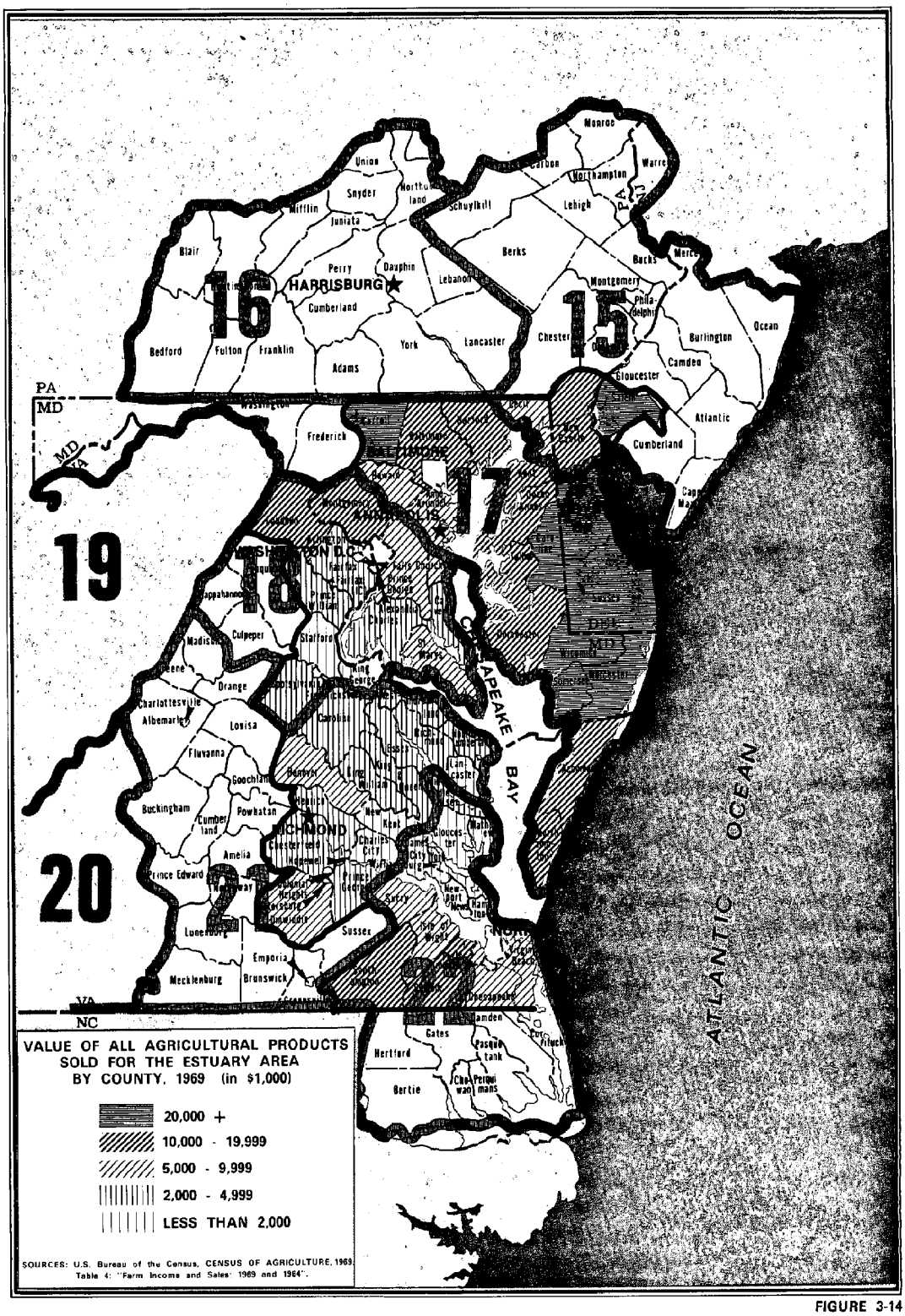

VALUE OF ALL AGRICULTURAL PRODUCTS SOLD FOR THE ESTUARY AREA BY COUNTY, 1969 (in $1,000)
20,000 +
10,000 - 19,999
5,000 - 9,999
2,000 - 4,999
LESS THAN 2,000
SOURCES: U.S. Bureau of the Census, CENSUS OF AGRICULTURE, 1969, Table 4: "Farm Income and Sales: 1969 and 1964".
HARRISBURG
WASHINGTON D.C.
ANNAPOLIS
RICHMOND
CHESAPEAKE BAY
ATLANTIC OCEAN
PA
MD
VA
NC
16
15
17
18
19
20
21

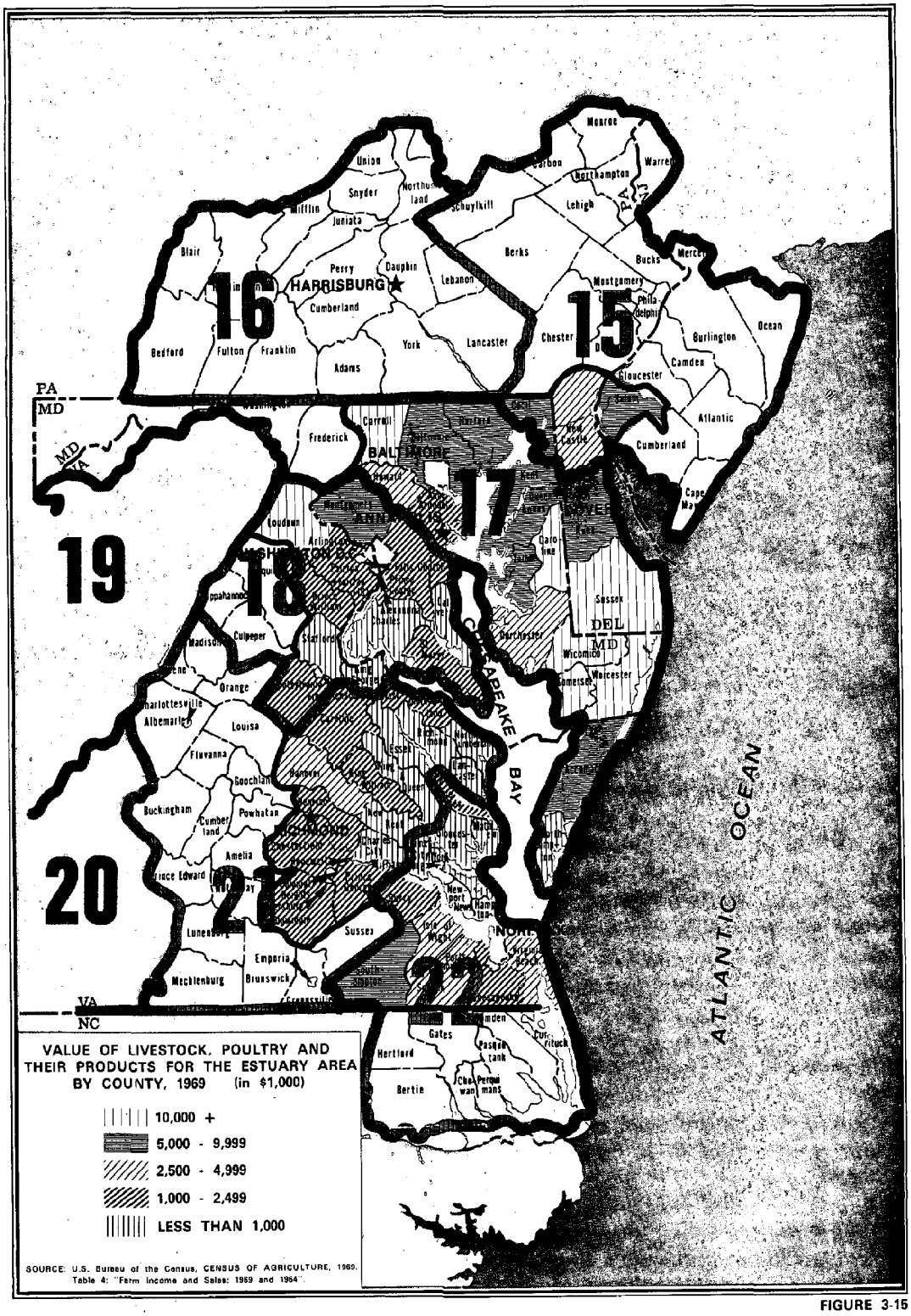
FIGURE 3-14

TABLE 3-24
VALUE OF FARM PRODUCTS SOLD BY SUBREGION
(Thousands of Dollars)

Subregion	1969 Crops Including Nursery Products and Hay	1969 Livestock, Poultry and their Products	1969 Total of All Agricultural Products*	1964 Crops Including Nursery Products and Hay	1964 Livestock, Poultry and their Products	1964 Total of All Agricultural Products*
BALTIMORE	121,333	262,960	384,293	106,936	208,249	315,185
WASHINGTON, D.C.	24,954	30,015	54,969	26,403	25,650	52,053
RICHMOND	24,618	21,129	45,747	23,385	15,655	39,040
NORFOLK-PORTSMOUTH	39,761	23,064	62,825	33,919	17,232	51,151
WILMINGTON SMSA	21,793	19,581	41,374	16,919	16,929	33,848
ESTUARY TOTAL	232,459	356,749	589,208	207,562	283,715	491,277

Subregion	1959 Crops Including Nursery Products and Hay	1959 Livestock, Poultry and their Products	1959 Total of All Agricultural Products*	1954 Crops Including Nursery Products and Hay	1954 Livestock, Poultry and their Products	1954 Total of All Agricultural Products*
BALTIMORE	85,144	158,418	243,562	77,364	138,010	215,374
WASHINGTON, D.C.	23,030	29,718	52,748	20,042	27,006	47,048
RICHMOND	19,050	17,572	36,622	15,458	13,767	29,225
NORFOLK-PORTSMOUTH	29,727	14,781	44,508	30,356	14,017	44,373
WILMINGTON SMSA	13,637	20,031	33,668	11,625	17,818	29,443
ESTUARY TOTAL	170,588	240,520	411,108	154,845	210,618	365,463

*Total does not include forest products.


VALUE OF LIVESTOCK, POULTRY AND THEIR PRODUCTS FOR THE ESTUARY AREA BY COUNTY, 1969 (in $1,000)
10,000 +
5,000 - 9,999
2,500 - 4,999
1,000 - 2,499
LESS THAN 1,000
SOURCE: U.S. Bureau of the Census, CENSUS OF AGRICULTURE, 1969. Table 4: "Farm Income and Sales: 1969 and 1964".
HARRISBURG
BALTIMORE
CHESAPEAKE BAY
ATLANTIC OCEAN
PA
MD
VA
NC
DEL
16
15
17
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21
22

FIGURE 3-15

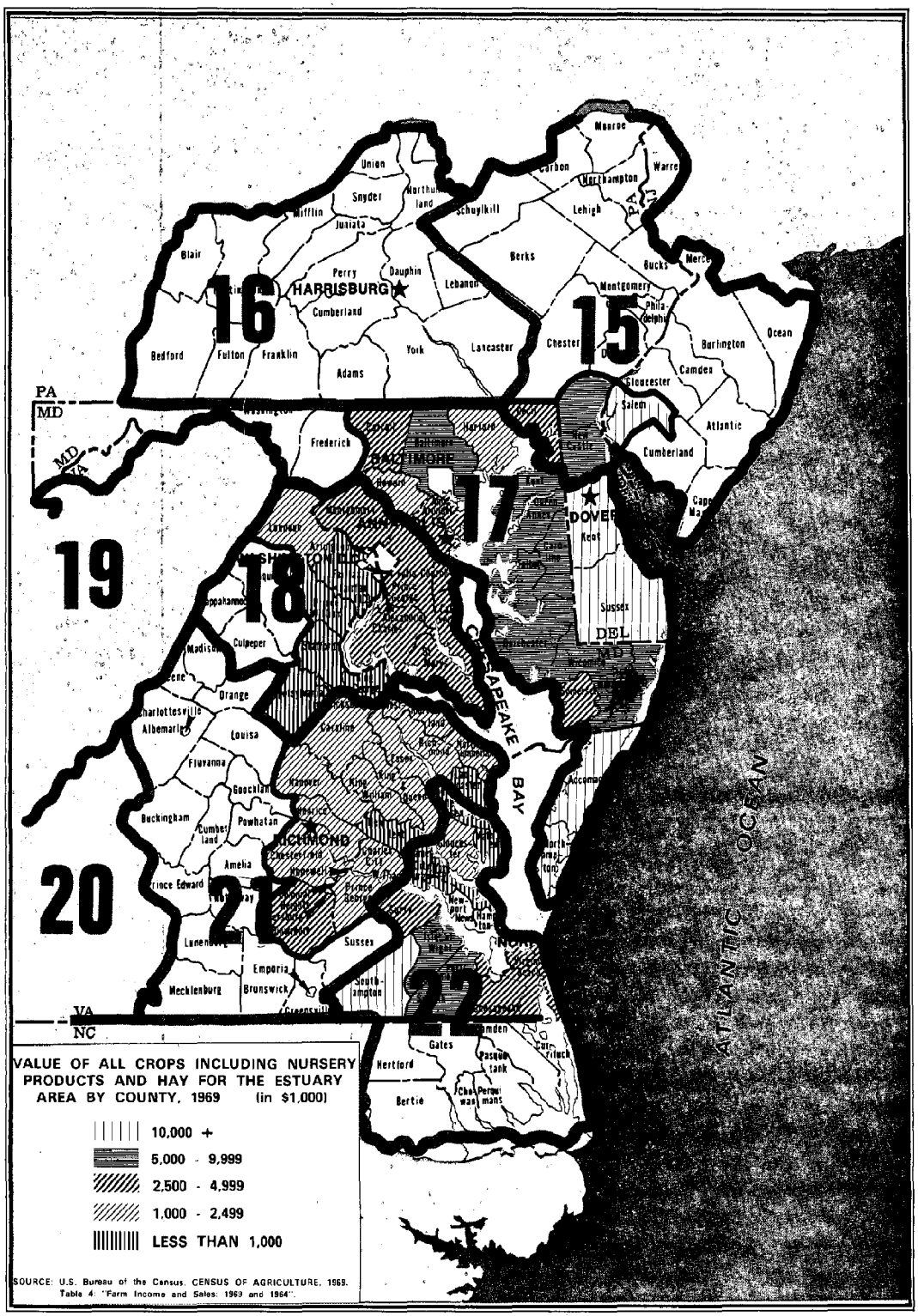
VALUE OF ALL CROPS INCLUDING NURSERY PRODUCTS AND HAY FOR THE ESTUARY AREA BY COUNTY, 1969 (in $1,000)
10,000 +
5,000 - 9,999
2,500 - 4,999
1,000 - 2,499
LESS THAN 1,000
SOURCE: U.S. Bureau of the Census, CENSUS OF AGRICULTURE, 1969. Table 4: "Farm Income and Sales: 1969 and 1964".
HARRISBURG
BALTIMORE
DOVER
RICHMOND
PA
MD
VA
NC
DEL
ATLANTIC OCEAN
CHESAPEAKE BAY
15
16
17
18
19
20
21
22

FIGURE 3-16

land in farms been declining but so too has the number employed as farmers, farm managers, laborers, and foremen.

Even with this decrease in agricultural land, agricultural production is increasing. Chemical fertilization has been at least partially responsible for this increased production while at the same time it is of serious consequence to the land and water resources of the Bay. Chemical fertilizers add nutrients to the waters of the Bay and its tributaries which results in an increase in the amount of algae and other vegetation. Plants demand oxygen and excessive vegetative growths can cause fish kills. Even though certain types of chemicals are currently prohibited, the problem still exists.

Poor farming techniques, in general, have been detrimental to water resources by resulting in extensive erosion and, ultimately, siltation of waterways. In many instances, tributaries and river channels have become completely silted up, making navigation impossible. The detrimental effects on commerce, recreation, and industry are obvious. Thus, the Agricultural Sector, while not of such comparative significance in terms of size of employment, is of great interest and concern in regard to its effect on the Bay. Irrigation, an important method in some areas of achieving highest yields per acre, is not of special significance in the Study Area. Therefore, it will not be considered here.

Certain counties within the Study Area (e.g., Fairfax County, Virginia) practice effective farming and soil conservation techniques. These include planning for the use of land according to soil types and terrain conditions which allows the farmer to use the land to the best purpose. The banks of waterways are left in sod or forest cover. Steep slopes are not plowed. The most intensive tillage is performed on soils that are level, well-drained and which tend to resist erosion.

Many acres of farmland within the Bay Area will be urbanized in the future. If agricultrual lands can be used according to their capabilities, much of the sedimentation and erosion problems which have plagued the Chesapeake Bay Area can be avoided.

b. Forestry. Forestry plays a significantly less important economic role within the Estuary Area than does Agriculture. Before settlement took place, the Region was covered with a rather dense forest cover. In spite of the vast urban nucleations and suburban sprawl which have developed since that time, large woodland areas still remain, particularly in the Tidewater regions of Virginia and southern Maryland. Although as much as two-thirds of the land area of some counties is in

woodlands, Forestry employs a minor proportion of the work force. In addition, woodlands are relatively insignificant in terms of value of products sold.

c. Fisheries. Surprisingly, the Fisheries industry employs only a comparatively small portion of the total work force in the Estuary Area, yet the Chesapeake Bay and its tributaries support one of the major U.S. commercial fisheries industries (this is not to mention the recreational fishing resources of the Bay). More detailed information on the "Harvesting Sector" and the "Seafood Processing Industry" is outlined by the National Marine Fisheries Service in Chapter VI of Appendix C of the Chesapeake Bay Existing Conditions Report.

BALTIMORE, MARYLAND SUBREGION

Agriculture, Forestry, and Fisheries employed 24,366 workers in 1970 which represented a 26.3 percent decrease over the number engaged in these activities in 1960. While the Baltimore Subregion employed more people in these three industries than any other Subregion (45.1 percent), the Sector accounted for only 2.4 percent of the total labor force within the Subregion.

In the Baltimore Subregion, Agriculture alone engaged 17,926 people or 73.6 percent of the total employment in this Sector. The value of all farm products sold by commercial farms in this Subregion amounted to $384,293,000. Caroline, Carroll, Somerset, Wicomico, and Worcester Counties, Maryland, and Kent and Sussex Counties, Delaware, were the primary agricultural producers. Each sold over $20 million worth of products.

Poultry and poultry products accounted for the major portion of the value of all agricultural products. Wicomico, Worcester, Sussex, and Somerset Counties were the principal poultry producers. Vegetables and dairy products were also valuable groups of agricultural commodities sold in the Subregion. All of the 17 counties of the Subregion produced at least some of these products. Dairying has a definite advantage in the Bay Region because the large urban populations demand fresh bottled milk and cream. The dairies themselves must be within close proximity to meet this demand. Dairying, as a result, has successfully competed with the urbanization process for land immediately adjacent to the cities.

WASHINGTON, D.C. SUBREGION

There were 12,427 workers employed in the Agriculture, Forestry, and Fisheries Sector in the Washington Subregion in 1970. This was a decrease of 17.8 percent over the number employed in 1960. The Subregion ranked second in terms of number of people engaged in this Sector (23.0 percent of all those within the Estuary Area employed in Agriculture, Forestry, and Fisheries). Of the total labor force within this Subregion, however, only 0.9 percent were engaged in these industries.

Agriculture accounted for almost two-thirds of all those employed in the Sector, or 8,041 people. The value of all farm products sold by commercial farms in this Subregion totaled $54,969,000. This was only 14.3 percent of the total value of farm products produced in the Baltimore Subregion. In terms of value, livestock and poultry were more valuable in this Subregion than were crops. Tobacco, however, was a very important commodity with the chief producing counties all located in Southern Maryland (Prince Georges, Calvert, Charles, and St. Marys). The total value of the tobacco crop was considerably higher than any other Subregion in the Estuary Area.

Dairy products and the sale of livestock were important farm activities within the Washington, D.C. Subregion as well. Loudoun County, Virginia, was the principal producer of livestock, including cattle, calves, hogs, and pigs. Only one county out of 12 did not produce livestock for commercial sale (Arlington County, a highly urbanized area, was the sole county which did not produce livestock).

RICHMOND, VIRGINIA SUBREGION

The Agriculture, Forestry, and Fisheries Sector within the Richmond Subregion employed 5,589 people in 1970 which represented 1.9 percent of the total work force in the Subregion. There was a 39.8 percent decrease over the number engaged in this Sector in 1960. The Subregion ranked fourth within the Estuary Area in the number of people employed in these three industries. Approximately 10.3 percent of the total Sector employment was located in the Richmond Subregion. As with the other Subregions thus far investigated,

the Richmond Subregion has more workers employed in the Agricultural portion of the Sector than both Forestry and Fisheries combined. Approximately 70.4 percent of the workers (3,932 people) are involved in some type of farming activity.

The value of all farm products sold by commercial farms totaled $45,747,000. The most important farm products sold were the oil crops which include soybeans and peanuts. Production and sales took place in all 15 counties of the Subregion. Corn and livestock were also important farm products and were each produced in all of the Subregion's counties.

NORFOLK-PORTSMOUTH SUBREGION

The Norfolk-Portsmouth Subregion was the third highest employer within the Estuary Area (15.3 percent of the total) in the Agriculture, Forestry, and Fisheries Sector. Approximately 8,252 people were employed in 1970 representing a decrease of 33.8 percent over those engaged by these industries in 1960. The Sector accounted for only 1.8 percent of the total labor force within this Economic Subregion.

In 1970, Agriculture employed 4,833 workers or 13.2 percent of all those employed in Agricultural activities within the Estuary. The value of all farm products sold totaled $62,825,000 in 1969 with oil crops making up the largest portion of this. Southampton County was the biggest producer of oil crops in both the Subregion and the Estuary Area. The major portion of oil crops sold by commercial farms in this Subregion was produced in Southampton and Isle of Wight Counties and the City of Suffolk. The Subregion is also an important producer of livestock and corn.

WILMINGTON, DELAWARE SMSA

The Wilmington Subregion employed less people in the Agriculture, Forestry, and Fisheries Sector in 1970 than any of the other four Subregions (only 6.4 percent of all those within the Estuary Area employed in this Sector were found here). Employment in 1970 was 3,450, a decrease of almost one-third from the number engaged in these activities in 1960. Of the total work force in the Wilmington SMSA, 1.8 percent were employed in this Sector.

Agriculture in the Subregion engaged 1,954 people or 56.6 percent of the total Sector employment. The value of all farm products sold by commercial farms was the lowest for any of the Subregions. Part of this can be explained by the fact that the Wilmington Subregion is much smaller in area than any of the other Subregions.

The most important group of commodities in terms of value of products sold was dairy products. The explanation for this is similar to that for other large dairying areas: farmlands in close enough proximity to large urban populations to provide the fresh cream and milk which urban population demands.

Each of the three counties within the Subregion (Cecil, New Castle, and Salem) sold between $2,000,000 and $4,999,000 worth of dairy products in 1969. The total value of these commodities was $11,473,000.

Vegetables ranked second in value of farm products sold. Salem County, New Jersey, was the largest producer of vegetables both within the Subregion as well as the Estuary Area, having sold $9,664,000 worth of products. The total value of these farm products for the Subregion amounted to $10,432,000. The best explanation for such a large production of vegetables is, once again, the Subregion's location. Situated between several large urban centers (Wilmington, Philadelphia, and New York), the Wilmington Subregion supplies vegetables to an ever increasing market both within as well as outside its economic boundaries. Due to the close proximity of these markets, perishable vegetables can reach the consumer before they have time to spoil.

Poultry products constitute an important commodity sold in the Subregion. All three counties produced these products in 1969.

Nursery and greenhouse products are economically important to the Estuary Area although in no Subregion are these products among the three most important commodities in terms of value of farm products sold. Production is greatest in counties adjacent to or surrounding large urban populations where demand for specialized "horticulture - type" goods is strongest.

CONSTRUCTION

The Construction Sector (SIC Code 15-17) includes workers engaged in contract construction. Activities in this Sector include the construction of houses, office buildings, stores, highways, bridges, tunnels, locks, piers, dams, as well as more specialized construction jobs such as plumbing, painting, electrical work, and carpentry.

The Construction Sector in the Estuary Area employed 199,723 people in 1970. This represented a 22.3 percent increase over the figure for 1960. About 6.1 percent of the Area's work force was employed in this Sector, slightly higher than the figure for the United States as a whole.

The level of construction activity in the Bay Region increased significantly between 1960 and 1970 as evidenced by the increase of some 36,000 workers during the period. An increase in housing construction was a major reason for this expansion, as shown in Table 3-25. The tremendous influx of new people into the Region during the last decade significantly increased the demand for new housing. Generally, one new housing unit (including apartments) was built for each two to three person change in the population during the 1960-1970 decade. In addition, postwar babies reached the age when they began to form families and buy homes. Expanded government aid in the area of subsidized housing and mortgages has also helped to stimulate the housing industry. As a result of these factors, there was an increase of 584,384 housing units in the Bay Region during the 1960-1970 period.

As might be expected, housing construction activity in the Estuary Area was generally concentrated in those counties which experienced the highest gains in population. These included the counties around Washington, D.C. and Baltimore, Maryland. Prince Georges County, Maryland, had, by far, the largest absolute increase in housing units during the decade with a gain of 100,612 units. The Washington, D.C. Subregion alone accounted for approximately 53 percent of the total increase in housing units in the Bay Region during the Sixties. The Baltimore Subregion accounted for an additional 23 percent. Table 3-25 and Figure 3-17 present data for the increases in housing units in the Estuary Area by Subregion and county during the decade.

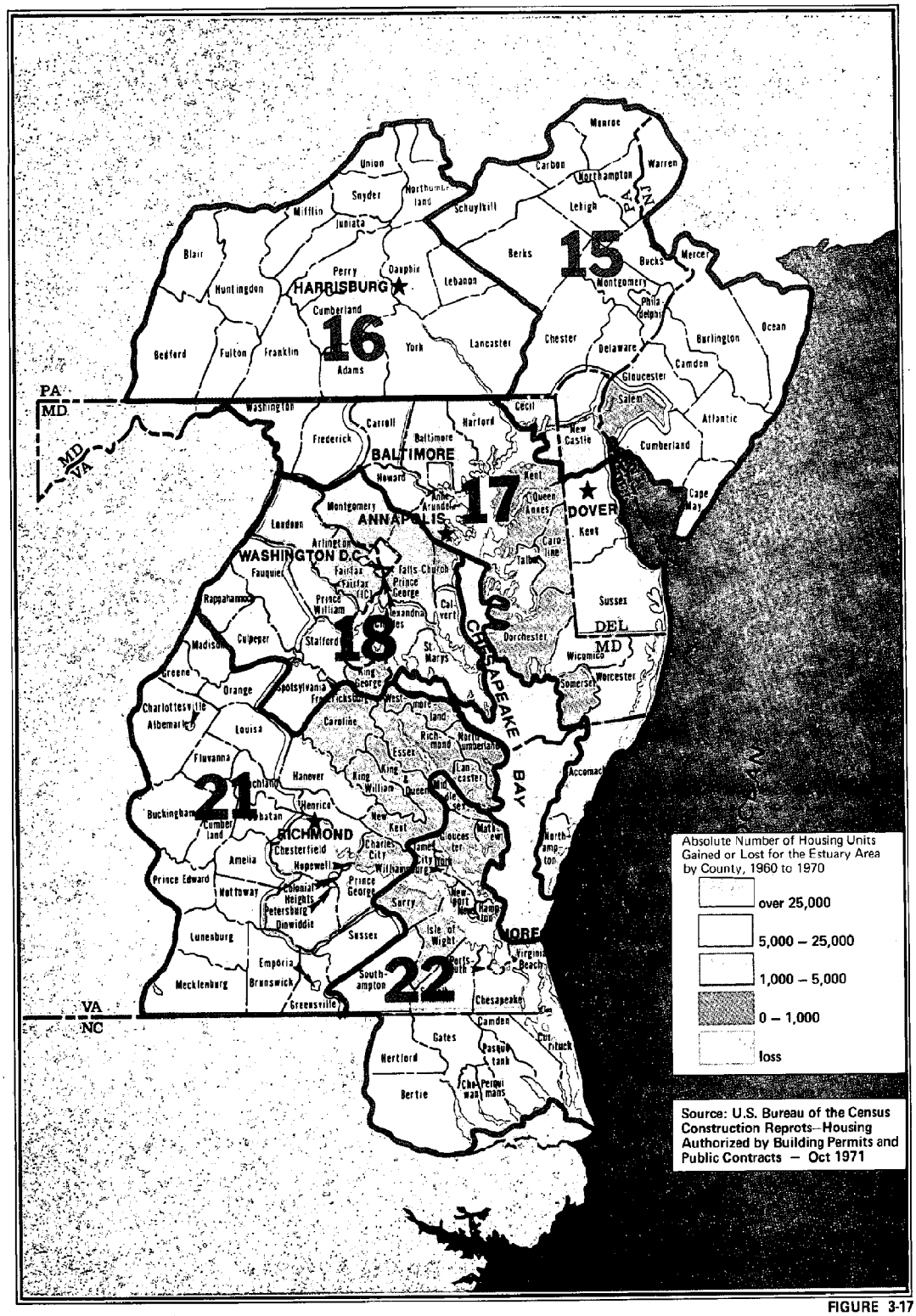
HARRISBURG
BALTIMORE
ANNAPOLIS
WASHINGTON D.C.
RICHMOND
DOVER
15
16
17
18
21
22
CHESAPEAKE BAY
PA
MD
VA
NC
DEL
Absolute Number of Housing Units Gained or Lost for the Estuary Area by County, 1960 to 1970
over 25,000
5,000 – 25,000
1,000 – 5,000
0 – 1,000
loss
Source: U.S. Bureau of the Census Construction Reprots—Housing Authorized by Building Permits and Public Contracts – Oct 1971

FIGURE 3-17

TABLE 3-25
CHANGE IN HOUSING UNITS BY SUBREGION
AND TOTAL ESTUARY AREA - 1970

Subregion	Number of Housing Units 1970	Absolute Change in Housing Units 1960-1970	Percent Change in Housing Units 1960-1970
17 - Baltimore, Md.	812,962	+134,457	+19.8
18 - Washington, D.C.	993,590	+309,265	+45.2
21 - Richmond, Va.	236,964	+ 50,153	+26.8
22 - Norfolk-Portsmouth, Va.	337,711	+ 62,412	+22.7
Wilmington, Del. SMSA	156,723	+ 28,097	+21.8
Total Estuary Area	2,537,950	+584,384	+29.9

SOURCE: U.S. Bureau of the Census, Census of Housing: 1960 and 1970.

Increases in business and commercial activities in the Estuary Area along with expansions in Federal employment helped to create a boom in the construction of new office buildings during the 1960-1970 decade. Major urban renewal projects in Baltimore and Washington also employed many construction workers.

The construction of the Estuary Area's portion of the Interstate Highway System, including the Beltways around Baltimore and Washington and the improvement of many other highways and roads throughout the Region provided a significant number of jobs during the decade. The Chesapeake Bay Bridge-Tunnel project and the second Bay Bridge between Sandy Point and Kent Island in the Northern Part of the Bay were also important projects.

Construction activities have a great deal of impact on the water resources of the Bay Region. Much of the disturbed soil (often including valuable top soil) in construction areas erodes and becomes sediment in streams and rivers. This silt causes damage to fish and wildlife by cutting-down on the amount of

oxygen in the water and by covering spawning beds. In addition, sediment can clog navigation channels (necessitating costly dredging operations), increase the cost of treatment for city and industrial water supplied, increase flood damages, make water recreation less enjoyable, and generally lower the aesthetic quality of a waterway. The indiscriminant cutting of trees, paving of land, and the destruction of wetlands during construction activities greatly increases the run-off from a given rainfall which, in turn, increases the frequency and severity of floods.

Unfortunately, the areas in the Bay Region with the most construction activity are the same areas in which there are already significant industrial and residential strains on the Bay's resources. It was estimated in a study by Wolman that sediment from construction sites in the Washington, D.C. area probably contributes 25-30 percent of the total sediment entering the Potomac River at Washington. These facts only emphasize the need for a comprehensive land and water management program which will minimize the environmental impact of these activities.

BALTIMORE, MARYLAND SUBREGION

There were 63,836 people working in the Construction Sector in 1970 in the Baltimore Subregion. The Subregion ranked second in the Estuary Area in employment in this Sector with 32.0 percent of the Region's total. There was a gain in employment of 10.2 percent during the 1960-1970 decade, the smallest increase of any Subregion.

Housing and apartment construction accounted for a major part of the building activity in the Subregion. The net gain of 134,457 housing units between 1960 and 1970 represented about 23 percent of the total Estuary Area gain. The major portion of this activity took place in the counties which comprise the Baltimore SMSA. Baltimore and Anne Arundel Counties along with Baltimore City experienced the greatest absolute gains with increases of 47,824, 27,574, and 15,366 units respectively between 1960 and 1970. Howard County, Maryland, had the greatest percentage increase (76.9 percent) of any county in the Subregion largely due to the presence of the planned community of Columbia between Baltimore and Washington. On the Eastern Shore, significant construction activity took place in Worcester and Sussex Counties along the Atlantic Ocean beach areas from Rehoboth Beach, Delaware, south to Ocean City, Maryland.

There were also several important highway construction projects in the Subregion during the decade. The construction of Interstate Highways 95, 83, and 70N, as well as the improvement of U.S. Routes 50, 13, and 113 provided many jobs during the decade.

The Calvert Cliffs Nuclear Power Plant and the second Bay Bridge were also important projects during the latter part of the period.

WASHINGTON, D.C. SUBREGION

The Washington Subregion ranked first in the Estuary Area in Construction Sector employment with 74,849 workers in 1970. This amounted to 37.5 percent of the total construction employment in the Estuary Area. The area experienced a higher than average employment increase of 28.2 percent during the Sixties.

Approximately 53 percent of the total increase in housing units during the 1960-1970 decade in the Estuary Area occurred in this Subregion. Again the vast majority of the housing construction activity took place in the suburban counties surrounding the District of Columbia. Prince Georges and Montgomery Counties in Maryland and Fairfax County, Virginia, had the highest absolute increases in the Subregion with gains of 100,612, 64,237, and 61,633 housing units respectively. Suburbanization has spread outward from the District of Columbia into Prince William, Loudoun and Charles Counties. Prince William had the highest percentage increase of any county in the Estuary Area (+126.3 percent) during the 1960-1970 decade.

A proposed new community in Charles County, Maryland (St. Charles) has sparked a controversy between present residents of the County and outside developers. The dispute arose over the fact that the new community will eventually almost double the population of what is now a predominantly rural county. Residents fear that such rapid development will permanently alter the quaint, rural life which they have been used to. Such conflicts between the need for more land for development and the desire to preserve unique lands and life styles again point out the need for a comprehensive land and water management plan for the Bay Region.

The construction and improvement of Interstate Highways 95, 66, 70S, 495, and U.S. Routes 29, 50, and 301 generated a

significant number of jobs for construction workers during the 1960-1970 decade. The construction of Dulles International Airport in Loudoun County, Virginia, was also important to the Sector. Expanded Federal employment in the Washington area stimulated the construction of many new office buildings.

RICHMOND, VIRGINIA SUBREGION

There were 21,317 people employed in the Construction Sector of the Richmond Subregion in 1970. The Subregion ranked first in the Estuary Area in proportion of total workers in the Construction Sector with 7.1 percent. The rate of employment increase during the 1960-1970 decade amounted to 27.1 percent, higher than both the National and Regional rates.

There was a net gain of over 50,000 housing units in the Subregion during the last decade. This represented a 26.8 percent increase during the period, the second highest gain in the Estuary Area. The political subdivisions with the largest absolute gains in the Subregion were Richmond City and Henrico County. These two counties accounted for about 66 percent of the total net gain in housing units. None of the counties or independent cities in the Subregion lost housing units during the decade. All of the counties in the Richmond-Petersburg area experienced moderate percentage gains with Henrico (+42.6 percent), Hanover (+41.7 percent), and Prince George (+38.9 percent) experiencing the highest proportional increases.

Many construction workers were also employed during the decade in expansion and improvement of Interstate Highways 95, 64, 85, and U.S. Routes 360, 60, and 301. The increased demand for office space, due to large gains in the number of State government employees, also stimulated construction activity in the Richmond area.

NORFOLK-PORTSMOUTH, VIRGINIA SUBREGION

There were 26,196 workers in the Construction Sector in the Norfolk-Portsmouth Subregion in 1970. There was an increase in employment during the 1960-1970 decade of 31.8 percent, the largest increase in the Estuary Area. This gain was due

to a significant influx of Armed Forces personnel into the area and to a large increase in the construction of vacation homes in the Virginia Beach area.

The gain of 62,412 housing units in the Subregion during the 1960-1970 decade represented an increase of 22.7 percent. The largest absolute increase occurred in the Independent Cities of Hampton, Newport News, and Virginia Beach. These three political units accounted for 69 percent of the total increase in housing units in the Subregion. Virginia Beach experienced the largest percentage increase in the Subregion with a gain of 92.8 percent. York and James City Counties also had large proportional increases with gains of 46.2 percent and 70.2 percent respectively. Suffolk (-12.1 percent) and Southampton (-27.7 percent) Counties were the only ones with losses during the decade in the Subregion.

The construction of the 21-mile-long Chesapeake Bay Bridge-Tunnel across the mouth of the Bay was the major construction project in the Subregion during the Sixties. The construction and improvement of Interstate Highways 64 and 264, U.S. Routes 58 and 17, along with State Road 44 to Virginia Beach, also stimulated construction activity in the area.

WILMINGTON, DELAWARE SMSA

The Wilmington SMSA had 13,527 Construction workers in 1970. The Subregion ranked second in the Estuary Area in both proportion of total workers in the Construction Sector and in percentage increase in Sector employment.

The area experienced an increase of 28,097 housing units during the 1960-1970 decade with all but about 2,000 of this increase occurring in New Castle County, Delaware.

There were several highway construction and improvement projects in the SMSA during the decade including Interstate Highways 95 and 295 as well as U.S. Routes 40 and 13. The construction of a second bridge crossing over the Delaware River was also an important construction project in the Subregion during the decade.

MINING

The Mining Sector includes quarrying and gas and petroleum extraction as well as general mining activities (SIC Codes 10-14). Mining in 1970 provided employment for 3,414 people or 0.1 percent of the total employment in the Estuary Area. This represented an increase between 1960 and 1970 of 71.1 percent. In the United States as a whole, Mining employment declined 7.6 percent during the same period and it accounted for 0.8 percent of the total National employment in 1970.

In 1970, Mining employed fewer people than any other Sector within the Estuary Area. The same is true for each of the individual Subregions where employment in this Sector accounted for no more than 0.2 percent of the total. The chief reason for such a small employment rate in mining is simply a general absence of most minerals in any commercially significant quantities. Only stone, sand, gravel, and clay are found in large enough quantities to provide significant employment. These commodities are used, for the most part, as building materials for local construction projects. As a result, the demand for these materials has increased right along with the tremendous increases in construction activity throughout the Bay Region. Baltimore, Harford, Howard, Anne Arundel, Montgomery, Prince Georges, and Fairfax Counties have experienced especially heavy building activity. The construction of highways, beltways, and other road construction and maintenance, along with the construction of such projects as the Baltimore Gas and Electric Company's nuclear power plant at Calvert Cliffs, also use large quantities of sand, gravel, stone, and clay.

Although the Mining Sector employs relatively few people in the Estuary Area, Mining activities can have significant impacts on the environment and the water resource planning process. A major part of the sand and gravel produced in the Bay Region is extracted from river bottoms by dredging operations. These activities obviously stir-up bottom materials causing aesthetic degradation of the rivers due to clouding and silting and damaging finfish and shellfish populations. The operation of quarries, the major method of extracting stone and clay in the Bay Region, can also cause environmental problems associated with erosion, acid mine drainage, and aesthetics.

BALTIMORE, MARYLAND SUBREGION

As of 1970, the Baltimore Subregion employed 984 people which represented 10.2 percent more than those employed in 1960. Baltimore ranked second within the Estuary Area in terms of numbers engaged in Mining. Approximately 28.8 percent of all those employed in this Sector within the Estuary Area are located in the Baltimore Subregion.

Six commodities constitute the chief economic products mined or quarried within the Baltimore Subregion. Sand and garvel, quarried in largest quantities in Baltimore and Anne Arundel Counties, are used for local construction. Limestone, one of the most valuable stone products, is used both as a building stone as well as in the making of cement. Primary limestone producing areas include Baltimore, Howard, and Carroll Counties. Crushed and dimension stone are also mined for local use. Dimension stone, used for building purposes, includes marble, gneiss, slate, quartzite, and serpentine. During the 1960-1970 decade, it was most often quarried in Baltimore and Harford Counties. Clay, a fourth mineral of economic value, is also prevalent in Harford and Baltimore Counties. It is used to make brick and tile for construction and in pottery. Two other commodities are mined within the Baltimore Economic Subregion. A peat bog in Kent County, Maryland, provided material which was processed and sold in bulk or packaged for general soil improvement. The last commodity, oyster shells, are dredged from the bottom of the Bay and its tributaries, ground up and used as diet supplement in the poultry industry of the United States. These crushed oyster shells provide a mineral, calcium carbonate, which is important in strengthening the shell of the chicken egg.

WASHINGTON, D.C. SUBREGION

In 1970, employment in Mining for the Washington Subregion totaled 1,313, an increase of 96 percent between 1960 and 1970. The area employed a higher percentage of the total Regional Mining employment (38.5 percent) than any other Subregion. The majority of those employed come from those areas which have experienced the greatest building and road construction growth: Prince Georges, Montgomery, and Fairfax Counties, and Washington, D.C.

While the Subregion has no deposits of coal, metals or fuels, it is reasonably well supplied with sand and gravel and a small amount of stone. Charles, Fairfax, and Prince Georges Counties are the principal sand and gravel producing areas. Much of this fine and coarse grained mixture is taken from the bed of the Potomac River. The Maryland General Assembly has partially altered this dredging operation, however, by passing a bill in March of 1971 which made it "unlawful to dredge for sand, gravel, or other aggregates or minerals, in any of the tidal waters or marshlands of Charles County, providing that this section should not conflict with any necessary channel dredging operation for the purposes of navigation." Thus, all mining of sand and gravel in the Potomac under the jurisdiction of Charles County, Maryland, has been suspended since July 1, 1971 when the new law took effect.

There were minor deposits of marl and greensand found in Calvert County which were sold for agricultural purposes. Diatomite, supplemented with additional stockpile material and used for experimental purposes was also found and produced in Calvert County.

Fairfax, Prince William, and Loudoun Counties quarry dimension stone (granite and traprock). In addition, Fairfax County produces crushed stone (granite) which is used in construction or as agstone, fluxstone, railroad ballast, riprap and stone sand.

RICHMOND, VIRGINIA SUBREGION

The Mining Sector in the Richmond Economic Subregion employed 606 people in 1970. This represented an increase of 242.4 percent over the number employed in 1960. Only 0.2 percent of the total work force in the Subregion was engaged in Mining representing 17.8 percent of the total Mining activity within the Estuary Area.

Sand and gravel, together with brick clay, are produced and used for local construction purposes. The bulk of the sand and gravel recovery was by dredging and open pit mining. A substantial tonnage of industrial silica sand was produced from crushed sandstone and quartzite. Henrico County was one of the leading producers within the Subregion as well as within the Chesapeake Bay Estuary as a whole. Chesterfield and Charles City Counties were two of the other principal sand and gravel producing areas.

Clay output was in large part responsible for the increase in employment in the Mining Sector of the Richmond Subregion. Most of this clay is used for brick manufacture and to a lesser degree as lightweight aggregate and in the manufacture of Portland cement. A small amount is used in the making of flue linings, pottery, clay dummies, and sewer pipe. Chesterfield is the chief clay producing county in the Subregion.

The significant stone producing areas of the Subregion include Hanover and Chesterfield Counties. They are important for the production of crushed stone.

NORFOLK-PORTSMOUTH SUBREGION

The Mining Sector in the Norfolk-Portsmouth Subregion employs only 268 people. While this is a relatively insignificant number, it does represent an increase of 155 percent over the number employed in 1960. Of the total number of persons engaged in Mining in the Estuary Area, only 7.9 percent are located within this Subregion.

Chief mining activities consist of sand and gravel quarries and oyster shell mining. Sand, most of which is found in Virginia Beach near the Atlantic Ocean, is of sufficiently high quality and quantity that some of it is shipped outside the Subregion. Oyster shells are produced by two firms in the area and are utilized as raw materials for lime and the manufacture of cement. Oyster shell quarrying has been on the increase and this trend is expected to continue.

Several operations in Nansemond County mine clay for use by potters and in the production of lightweight aggregate. This clay is generally not of high enough quality to be useful in making the better clay products.

WILMINGTON, DELAWARE SMSA

In 1970, there were only 243 people, or 0.1 percent of the working population engaged in Mining activities in the Wilmington SMSA. While this was a 62 percent increase between 1960 and 1970, it represented the least number of people in the

Mining Sector of any of the five Economic Subregions (7.1 percent of all workers in the Estuary Area involved in mining were located in the Wilmington SMSA).

Mining activities which exist in this Subregion consist of sand, gravel, and stone quarrying in Cecil County, Maryland, and sand, gravel, and clay quarrying in New Castle County, Delaware. One of the best known granite deposits in the Bay Area is found near Port Deposit in Cecil County. It is used in widespread areas of the East Coast as both a building stone and as crushed stone for the construction of roads. Limestone and marble, two other building stones, are also mined in this County. Marble is especially valuable in gracing monuments and facades of churches and other institutions. The terrace and stream beds of Cecil County yield substantial quantities of sand and gravel. Most of this is used locally in highway construction and for building purposes.

New Castle County quarries no significant amounts of stone. Clay production, however, is used in the manufacture of common red brick.

WHOLESALE AND RETAIL TRADE

The Wholesale and Retail Trade Sector includes employment in the following activities:

a. Wholesale trade (SIC codes 50 and 51);
b. Building materials, hardware, garden supply, and mobile home dealers (SIC code 52);
c. General merchandise stores (SIC code 53);
d. Food stores (SIC code 54);
e. Automotive dealers and gasoline service stations (SIC code 55);
f. Apparel and accessory stores (SIC code 56);
g. Furniture, home furnishings, and equipment stores (SIC code 57);
h. Eating and drinking places (SIC code 58);
i. Miscellaneous retail (SIC code 59).

There were 565,196 workers employed in this Sector in 1970 or about 17.2 percent of the total employment in the Estuary

Area. This was lower than the National rate of 23.9 percent. In 1970, Wholesale and Retail Trade activities were the second largest employer in the Bay Region, behind the Service Sector. The Sector grew by 35.3 percent during the 1960-1970 decade, significantly higher than the National gain of 23.9 percent. The Wholesale Trade category grew the fastest with an increase of 63.6 percent compared to 30.1 percent for Retail Trade.

Retail Trade activities thrive in areas with high concentrations of people, high incomes, easy automobile accessibility and attractive surroundings. Since the Bay Region has an abundance of these characteristics, the Retail Trade industry is well-developed. It employs 458,221 workers or about 81 percent of the total Sector employment. Nationally, Retail Trade accounts for approximately 74 percent of total Wholesale and Retail Trade employment.

Half a century ago the inner cities were the undisputed centers of retail trade activities. During the 1920's, however, many retail trade establishments began to move out of the inner cities along with the many higher income families who were fleeing the city environment. More recently, the development of modern highway systems around the cities has led to the establishment of large shopping centers in the suburban counties. These counties have captured an increasing share of the retail sales in the Bay Region during the last several decades. However, as Figure 3-18 illustrates, the major cities are still important retail centers.

The Washington, D.C. and Baltimore, Maryland SMSA's contain the bulk (about 65 percent) of the retail trade activity in the Estuary Area. Other important retail centers are located in Richmond City, Wilmington, and in the Hampton Roads area of Virginia.

In 1970, about 19 percent of the total Wholesale and Retail Trade employment or 106,975 workers were engaged in wholesale activities. Persons are counted as being employed in the Wholesale Trade industry when they sell to, or negotiate sales with, persons who buy for the purposes of resale or industrial use. Wholesalers usually operate from warehouses which serve as storage facilities for their large stocks of goods. Sales negotiations are usually carried on at the retailer's establishment. Attractive surroundings are therefore not an absolute requirement for wholesalers since the availability of good transportation facilities, including water, is highly desirable. Because of the bulk quantities involved, the inner cities have remained the focal points of wholesale trade in the Estuary. Figure 3-19 illustrates this point. Table 3-26 shows the importance of various products in the wholesale trade

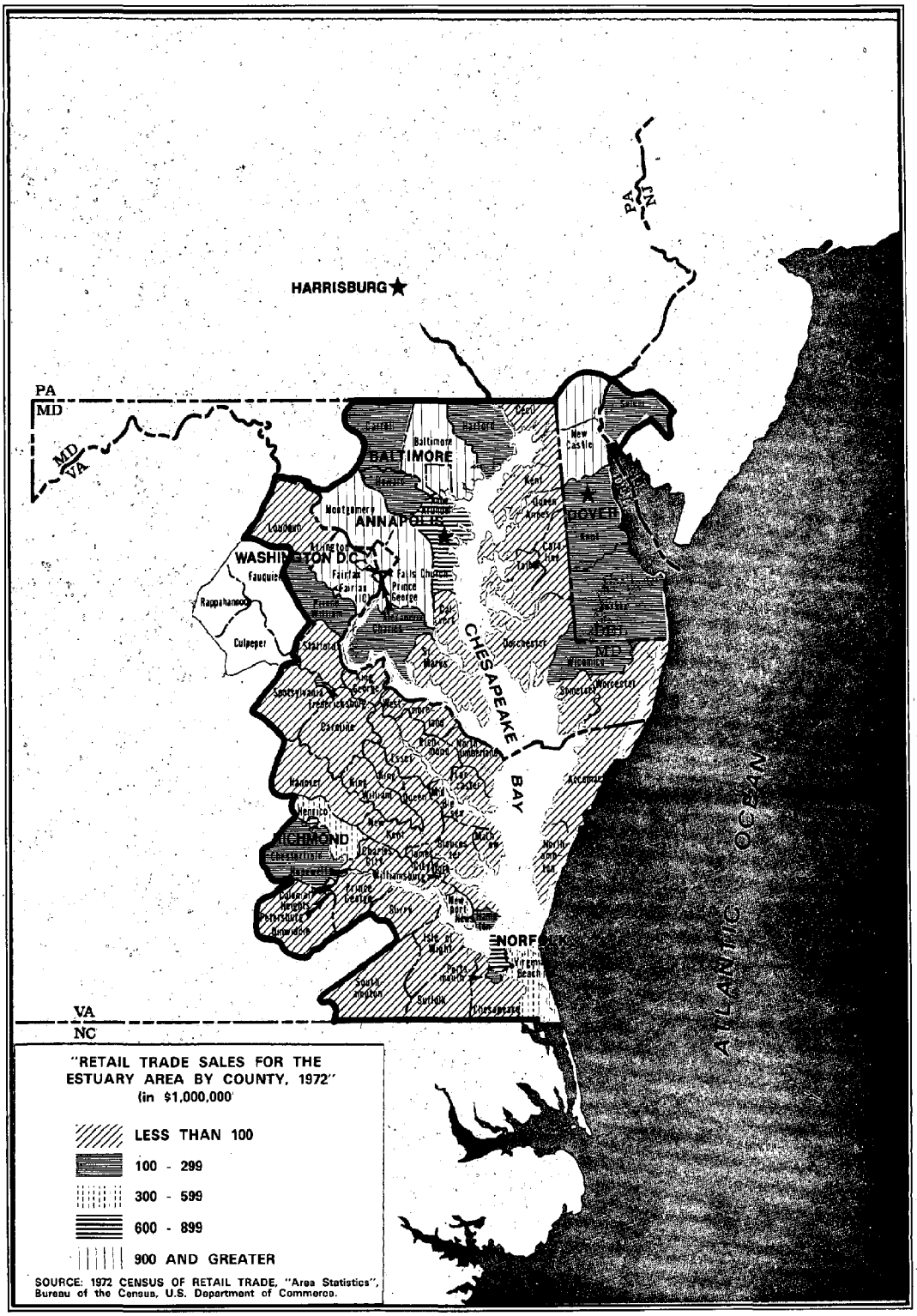
HARRISBURG
PA
MD
VA
NJ
DE
BALTIMORE
ANNAPOLIS
WASHINGTON D.C.
DOVER
RICHMOND
NORFOLK
CHESAPEAKE BAY
ATLANTIC OCEAN
NC
"RETAIL TRADE SALES FOR THE ESTUARY AREA BY COUNTY, 1972"
(in $1,000,000)
LESS THAN 100
100 - 299
300 - 599
600 - 899
900 AND GREATER
SOURCE: 1972 CENSUS OF RETAIL TRADE, "Area Statistics", Bureau of the Census, U.S. Department of Commerce.

FIGURE 3-18

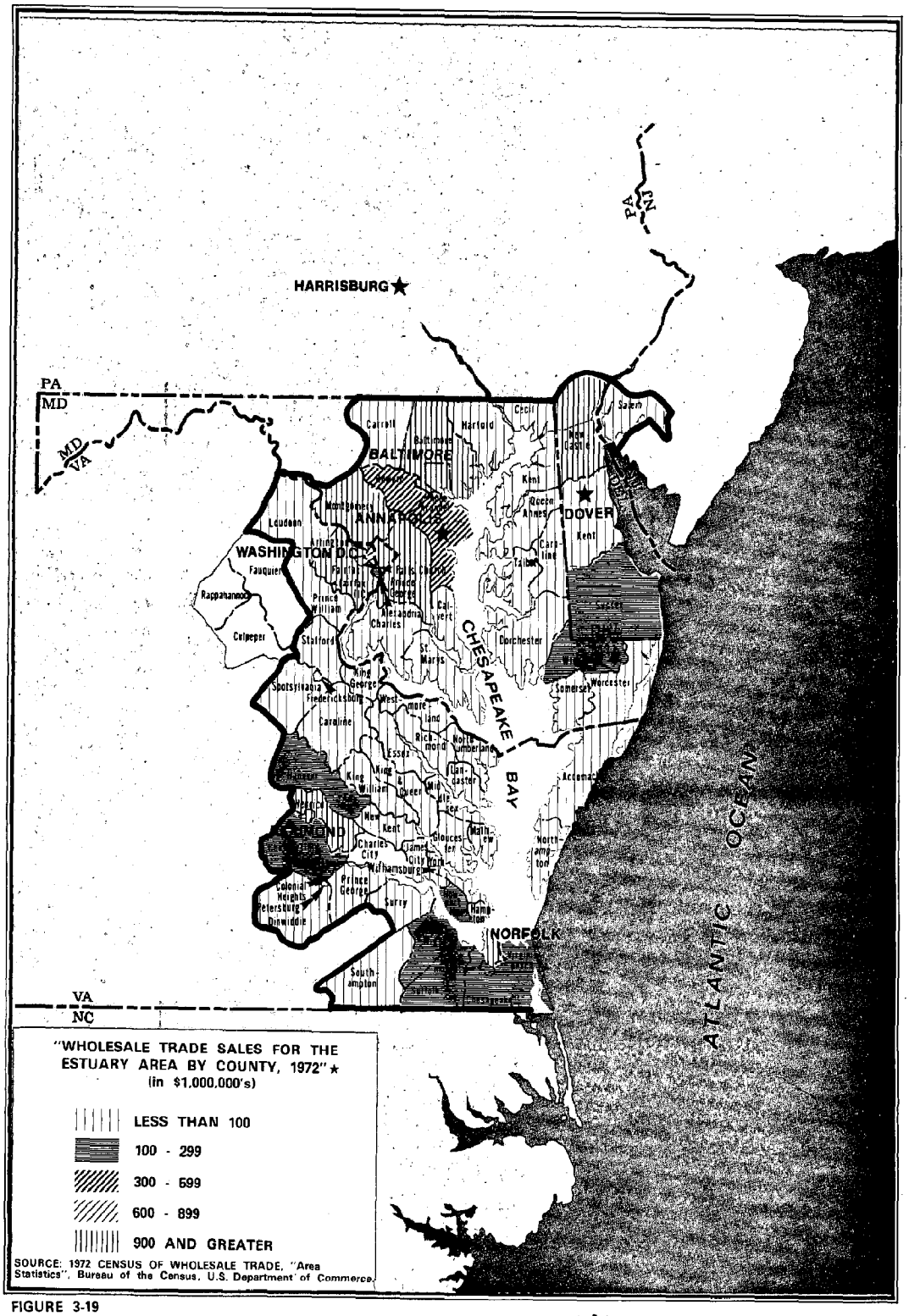

FIGURE 3-19

★ Data was not available for Charles City County, Virginia.

TABLE 3-26
WHOLESALE TRADE SALES AND FIRMS IN THE MAJOR ESTUARY AREA SMSA's - 1972

DURABLE GOODS

SMSA	Motor Veh. & Auto Parts & Supplies (SIC 501) Firms/Sales*	Furniture and Home Furnishings (SIC 502) Firms/Sales	Lumber and Construction Materials (SIC 503) Firms/Sales	Sporting, Rec, Photo, & Hobby Goods, Toys & Supplies (SIC 504) Firms/Sales	Metals and Minerals except Petroleum (SIC 505) Firms/Sales	Electrical Goods (SIC 506) Firms/Sales	Hardware, Plumbing, Heating Equip, Supplies (SIC 507) Firms/Sales	Machinery, Equipment, & Supplies (SIC 508) Firms/Sales	Misc. Durable Goods (SIC 509) Firms/Sales
Baltimore, Md.	266/745	87/131	153/319	56/84	59/472	208/587	157/171	516/875	122/112
Washington, D.C.	326/2,093	132/140	173/301	69/155	26/35	292/1,002	178/217	566/1,000	95/89
Richmond, Va.	125/607	40/24	57/126	19/37	24/196	88/332	68/91	256/423	33/18
Norfolk/Portsmouth/Va. Beach, Va.	103/143	24/144	64/86	24/46	11/49	50/45	44/49	170/168	34/30
Newport News/ Portsmouth, Va.	31/13	8/5	11/18	3/(D)	2/(D)	16/13	14/14	50/54	8/2
Wilmington, Del.	61/75	15/(D)	30/75	8/(D)	13/59	28/49	34/30	136/196	17/7

NON-DURABLE GOODS

SMSA	Paper & Paper Products (SIC 511) Firms/Sales	Drugs & Related Products (SIC 512) Firms/Sales	Apparel, Piece Goods, & Notions (SIC 513) Firms/Sales	Groceries & Related Products (SIC 514) Firms/Sales	Farm-Product Raw Materials (SIC 515) Firms/Sales	Chemicals & Allied Products (SIC 516) Firms/Sales	Petroleum & Petroleum Products (SIC 517) Firms/Sales	Beer, Wine, & Distilled Alcoholic Beverages (SIC 518) Firms/Sales	Misc. Non-Durable Goods (SIC 519) Firms/Sales
Baltimore, Md.	103/229	31/100	81/127	297/862	20/132	53/86	72/611	40/295	242/355
Washington, D.C.	130/175	30/92	47/48	229/703	17/44	33/59	59/586	54/243	224/271
Richmond, Va.	48/86	11/(D)	18/(D)	88/389	14/220	17/46	36/228	19/68	72/76
Norfolk-Portsmouth, Va.	25/22	8/43	11/11	108/330	21/144	10/7	56/232	9/34	80/98
Newport News-Hampton, Va.	7/3	2/(D)	2/(D)	48/41	--	1/(D)	26/35	5/13	14/4
Wilmington, Del.	15/(D)	9/(D)	5/15	60/165	9/14	18/(D)	26/153	14/(D)	61/79

*Sales in millions of dollars for each category.
D - withheld to avoid disclosure.

industry for the major SMSA's in the Bay Region. These major SMSA's control the bulk of the wholesale business with about 94 percent of the total 1972 sales in the Bay Region.

Wholesale trade in an area will often revolve around goods (manufactured or agricultural) which are produced in that area. For example, Baltimore specializes in the wholesaling of metal and metal products, Wilmington in drugs and chemicals, and Richmond in raw farm products (including tobacco auctioning and warehousing). Since the producing Sectors (Manufacturing, Agriculture, and Mining) of the Estuary Area's economy are relatively small, the wholesale trade industry is not well-developed in the Region. Some goods intended for wholesale distribution within the Bay Region are shipped into the Area from plants located outside the Region for re-distribution to retailers within the Estuary Area. Automobiles and auto accessories are examples of such goods.

BALTIMORE, MARYLAND SUBREGION

There were 188,128 persons employed in the Wholesale and Retail Trade Sector of the Baltimore Subregion in 1970. This amounted to 33.3 percent of the total Sector employment in the Estuary Area. Employment rose by 26.2 percent during the 1960-1970 period, lower than the total Estuary Area rate but higher than the National figure. There was a total of $12.7 billion worth of wholesale and retail trade sales in the Subregion according to the 1972 Census of Wholesale Trade and Retail Trade. The Wholesale and Retail Trade industry was the third largest employer in the Baltimore Subregion in 1970 with 18.7 percent of the total workers. The majority of this employment (79.2 percent) was engaged in Retail Trade activities. Employment in this category increased by 46.1 percent during the 1960-1970 decade. Major retail trade centers on the Western Shore are located in Baltimore City, Annapolis, Bel Air, Westminster, and in numerous locations around the Baltimore Beltway in Baltimore and Anne Arundel Counties. On the Eastern Shore, the major retail trade centers are located in Salisbury, Maryland, and Dover, Delaware. Retail Stores in Salisbury advertise their services as far as 75 miles away. There is also some important seasonal activity along the ocean beach resorts in Sussex and Worcester Counties, and in numerous fishing, boating, and swimming areas along the Bay's shoreline. Many thousands of dollars have been lost because of beach closings due to high pollution levels. This is especially true in the Baltimore County area where most of the private and public beaches have been closed.

Although the Wholesale Trade industry employs only 20.8 percent of the workers in this Sector, the majority of the sales (about 55 percent in 1972) took place in this category. Wholesale trade employment increased by 57.2 percent between 1960-1970. The important wholesaling centers are located in Baltimore City and the surrounding counties and in Sussex and Wicomico Counties where the wholesaling of farm products (especially poultry) is important.

The Baltimore SMSA accounted for 90 percent of total wholesale sales in the Subregion. The most important commodities wholesaled were groceries, metals, minerals, machinery, petroleum and petroleum products, and motor vehicles and automotive equipment. The latter two activities rely heavily on the port facilities of Baltimore. The City is the leading importer of foreign cars in the Country and is an important distributor of these automobiles. The City is also an important distributor of petroleum and petroleum products which are shipped through the C & D Canal from the refineries along the Delaware River and then redistributed to various points in the Bay. The majority of the metal and machinery wholesaled in the Subregion are produced in the Baltimore area.

WASHINGTON, D.C. SUBREGION

The Wholesale and Retail Trade Sector employed 209,050 workers in 1970 or 37.0 percent of the total Sector employment in the Estuary Area. The Subregion ranked first in the Bay Region in numbers employed in this Sector. The number of workers increased by 51.7 percent, significantly higher than both the Regional and National rates. Total wholesale and retail sales in 1972 were $15.0 billion in the Subregion.

The Wholesale and Retail Trade industry employed 15.7 percent of the Subregion's work force in 1970 making it the third leading employer in the Subregion. About 82.3 percent of those working in this Sector are engaged in retail trade activities. Employment in this category increased by 46.1 percent during the decade in the Subregion as rising population and income greatly increased the demand for retail services. As was the case in Baltimore, large shopping centers located at convenient places in the suburbs, usually near the Beltway, handle an increasing share of the retail trade business. However, the large numbers of government employees located in the downtown area has tended to keep retail trade in the city thriving.

Important retail centers within the Subregion besides the District of Columbia are Arlington, Alexandria, Fairfax City, Falls Church, and Fredericksburg in Virginia. In Maryland, Rockville, Hyattsville, and Laurel are also well-developed retail trade centers.

Wholesale Trade activities employed 34,140 workers in 1970 or 16.3 percent of the total Sector Workers. The industry accounted for approximately $7.3 billion worth of sales in 1972, the largest amount of any subregion. The most important goods wholesaled are electrical and non-electrical machinery, motor vehicles, and groceries. Distribution outlets of National and Regional manufacturing firms located in the Subregion to serve the large, high-income population generate a large part of the employment and sales in the Wholesaling category.

RICHMOND, VIRGINIA SUBREGION

There were 58,438 workers employed in the Wholesale and Retail Trade Sector in the Richmond Subregion in 1970. The Subregion employed 10.3 percent of the total Bay Region workers in this Sector. Employment increased by 25.5 percent during the 1960-1970 period, with Wholesale Trade having the highest rate of growth. This increase was slightly higher than the National rate but lower than the Regional rate. Total wholesale and retail sales in the Subregion in 1972 were approximately $5.1 billion.

The Richmond Subregion employed the highest percentage of its workers in the Wholesale and Retail Trade Sector (19.4 percent) than any other Subregion. Retail trade employs 75.3 percent of the workers in this Sector. Over half (53 percent) of the retail goods sold in the entire Subregion were sold in Richmond City. As was the case in Washington, D.C., retail trade in the City has been stimulated by the concentration of relatively high-income Government workers in the downtown area. Other significant retail trade activity is located in the Richmond suburbs and in Petersburg and Hopewell.

The Wholesale Trade industry is well-developed in the Richmond Subregion. Employment in this category rose by 54.3 percent during the 1960-1970 decade. The City serves as the major distribution center for groceries and motor vehicles for a large hinterland. The relative importance of manufacturing in the Subregion also makes the distribution of machinery and metals important. Richmond's port facilities also help to make

the City a wholesale supplier of petroleum and petroleum products. The wholesaling activity for which the Richmond area is most noted for is the auctioning and warehousing of tobacco.

NORFOLK-PORTSMOUTH, VIRGINIA SUBREGION

There were 73,946 persons employed in the Wholesale and Retail Trade Sectors in 1970. This number represents 13.1 percent of total Sector employment in the Estuary Area. Employment in the Sector rose at a modest 24.3 percent during the 1960-1970 decade. This was just slightly higher than the National increase. There was a total of $4.3 billion worth of wholesale and retail trade sales in the Subregion in 1972.

The Sector was the third largest employer in the Subregion in 1970 accounting for 15.9 percent of the total Subregion workers. A large proportion of these workers, 82.3 percent, are engaged in Retail Trade activities. About $2.3 billion worth of retail business took place in the Subregion in 1972. Retail trade employment increased by 23.1 percent during the 1960-1970 decade.

The relative importance of the Retail Trade is due to the large contingent of Armed Services which are stationed in the area. The income they receive, although some is spent in PX facilities, substantially increases the demand for retail services in the Subregion. Over one-third (35 percent) of the retail sales in the entire Subregion are transacted in Norfolk City. Other significant retail centers are located in Portsmouth, Hampton, and Newport News. There is also some important seasonal retail activity in Virginia Beach City along the ocean beaches and in historic Williamsburg which is a major tourist attraction.

Significant wholesale trade activities in the Subregion are limited to the distribution of automobiles and groceries. This can be largely attributed to the relative unimportance of manufacturing activity other than shipbuilding in the Subregion, and the relatively small hinterland for which Norfolk serves as a distribution center. The port facilities at Hampton Roads make the wholesaling of petroleum important. Norfolk also dominates wholesale sales activity in the Subregion with almost 46 percent of the total sales. Other important centers for wholesale trade are Newport News, Hampton, Suffolk, Chesapeake City, Franklin, and Virginia Beach City.

WILMINGTON, DELAWARE SMSA

In 1970, 35,634 people were employed by the Wholesale and Retail Trade Sector. This equaled 6.3 percent of the total Sector workers in the Bay Region. Employment increased by 43.5 percent in the Sector between 1960 and 1970, faster than both the National and Regional rate. Wholesale and Retail Trade totaled almost $3.6 billion in 1972.

The Sector employed 18.1 percent of the Subregion's total work force in 1970. High incomes and high rates of population growth in the Wilmington area have helped to stimulate growth in the retail trade industry which grew 36.4 percent during the 1960-1970 period. Wilmington is by far the most important retailing center in the area. Newark, Delaware; Elkton, Maryland; and Salem and Penn's Grove, New Jersey, are of lesser importance.

Although only 17.4 percent of the workers are engaged in wholesale trade activities, about 62 percent of the total Sector sales originated in this industry. The Chemical industry dominated wholesale trade activities in the SMSA in 1970 just as it dominated manufacturing activity. The major chemical firms operate sales branches devoted to the wholesaling of their products. Machinery, groceries, and petroleum and petroleum products are also important in the wholesale trade industry.

ARMED FORCES

The Armed Forces Sector includes persons on active duty with the United States Army, Air Force, Navy, Marine Corps, or Coast Guard. In 1970, there were 249,403 Armed Forces members stationed within the Estuary Area, representing 7.6 percent of the total Estuary employment. This was an increase of 18.3 percent over the number stationed in the Area in 1960. Four out of the five Subregions registered gains in this Sector. Figure 3-20 shows the percentage of total Estuary Area Armed Forces employment by county and independent city. The Cities of Norfolk and Virginia Beach in the Hampton Roads Area and Anne Arundel, Prince Georges, and Fairfax Counties in the Washington, D.C. Region contained the largest percentages of military personnel.

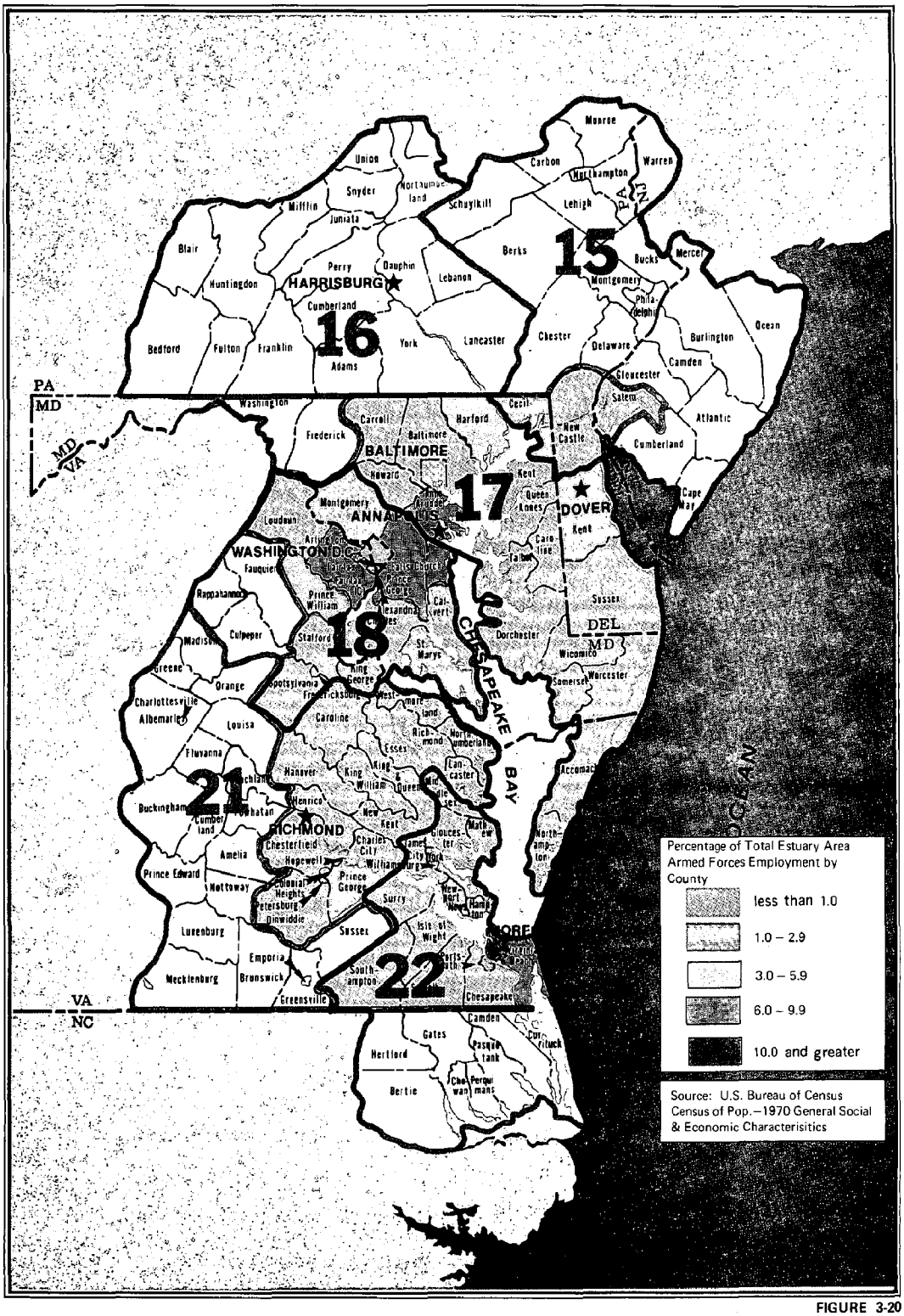
HARRISBURG
BALTIMORE
ANNAPOLIS
WASHINGTON D.C.
DOVER
RICHMOND
15
16
17
18
21
22
PA
MD
VA
NC
DEL
CHESAPEAKE BAY
ATLANTIC OCEAN
Percentage of Total Estuary Area Armed Forces Employment by County
less than 1.0
1.0 – 2.9
3.0 – 5.9
6.0 – 9.9
10.0 and greater
Source: U.S. Bureau of Census
Census of Pop.–1970 General Social & Economic Characterisitics

FIGURE 3-20

On the National level there were approximately 1,954,000 members of the Armed Forces stationed within U.S. boundaries. This represented only 2.6 percent of the National work force, a substantially lower rate than that for the Estuary Area. Several explanations exist for the proportionately larger numbers of military personnel in the Region. First, the area contains the U.S. Capital, Washington, D.C. Since earliest times military reservations have developed in the Washington area as a deterrent towards invasions. Second, the Bay and its tributaries provide well-protected, deepwater harbors suitable for naval bases and related naval operations, especially in the Hampton Roads area which is the location of one of the major naval bases in the United States.

The presence of military installations has boosted the economic base of the Estuary Area. The economic impact of government spending for military installations on local economies may be substantial because of the volume of subcontracting associated with this spending. The Retail, Service, and Construction Sectors are also stimulated by the spending of members of the Armed Forces. Although the Armed Forces Sector is rightly considered as predominantly basic, the impact ("multiplier effect") of these activities is somewhat less than those in other basic Sectors because much of the retail trade spending by the military takes place on the installation in military stores. In addition, military housing is often provided Armed Forces personnel. Nevertheless, the Sector remains extremely important to the Bay Region's economy. In some cases, whole towns or areas are supported by military spending. The Norfolk-Portsmouth SMSA has a higher proportion of its work force in the Armed Forces (40 percent) than any other SMSA in the United States.

Concentrations of large numbers of military personnel in an area obviously increase the demands on the water resources in that area. More water is demanded for drinking as well as for other purposes, and the flow of sewage into the rivers is often greatly increased. Although the level of sewage treatment at each military installation usually corresponds with the level of treatment in the surrounding communities, all too often this treatment is inadequate. This is one area where the Federal Government has failed to take the lead in improving water quality.

BALTIMORE, MARYLAND SUBREGION

The Baltimore Subregion had 35,383 people in the Armed Forces in 1970, representing a slight increase of 2.6 percent over the number stationed there in 1960. Of the total number of people within the Estuary Area in the Armed Forces Sector, 14.2 percent were based in the Baltimore Subregion. Table 3-27 lists the major Federal installations in the Estuary Area by Subregion. The large number of installations present is a result of the area being close to Washington, D.C., and the availability of shoreline sites on the Bay and its tributaries.

WASHINGTON, D.C. SUBREGION

The Washington Subregion had 90,394 persons in the Armed Forces Sector in 1970. This was the second highest Subregion total and accounted for 36.2 percent of the total Sector employment in the Estuary Area. The number registered in 1970 represented 6.8 percent of the total work force. The large number of installations is due to the location of the Nation's Capital in the Subregion and to the availabilty of waterfront sites.

RICHMOND, VIRGINIA SUBREGION

The Richmond Subregion has relatively few members of the Armed Forces based within its boundaries. Approximately 10,201 people or 3.4 percent of the Subregion's work force were listed in this Sector, representing 4.1 percent of the total number of Armed Forces within the Estuary Area. Nevertheless, the number stationed here has increased by almost one-third over those based in the Subregion in 1960, making it the highest percent increase of any Subregion within the Estuary Area. Most of the installations in the area are training facilities.

TABLE 3-27
FEDERAL MILITARY INSTALLATIONS IN THE
ESTUARY AREA BY SUBREGION

SUBREGION	FEDERAL INSTALLATIONS
Baltimore, Md. (Subregion 17)	U.S. Coast Guard Depot (Anne Arundel County) U.S. Air Force Transmitter Station (Anne Arundel County) U.S. Military Reservation (Sussex County) U.S. Military Reservation (Northampton County) Cape Charles Air Force Base (Northampton County) United States Naval Academy (Anne Arundel County) Naval Ship Research and Development Center (Anne Arundel County) Fort George G. Meade (Anne Arundel County) Aberdeen Proving Grounds (Harford County) Edgewood Arsenal (Harford County) Fort Holabird (Baltimore County) Dover Air Force Base (Kent County) NASA - Wallops Island (Accomack County)
Washington, D.C. (Subregion 18)	Naval Testing Center (Calvert County) Naval Research Lab (Randall Cliff Beach - Calvert County) National Naval Medical Center (Montgomery County) Naval Ship Research and Development Center (Montgomery County) Naval Ordnance Lab (Montgomery County) U.S. Military Reservation (Globecom, Prince Georges County) Reconnaissance and Technical Support Center (Prince Georges County) Naval Reservation Radio Station (Prince Georges County) Webster Field (Electronic Systems Test and Evaluation Center - St. Mary's County) Cameron Station Military Supply Depot (Alexandria) Battery Cove Military Reservation (Alexandria) Pentagon Navy Annex Arlington Hall Reservation (Signal Corps, Arlington County) Fort Belvoir Military Reservation (Fairfax County) U.S. Naval Reservation (Dahlgren Weapons Lab, King George County) U.S. Military Reservation (Prince William County) Naval Research Lab (D.C.) Bolling Air Force Base (D.C.)

TABLE 3-27 (continued)
FEDERAL MILITARY INSTALLATIONS IN THE
ESTUARY AREA BY SUBREGION

SUBREGION	FEDERAL INSTALLATIONS
Washington, D.C. (Subregion 18) (cont'd)	U.S. Naval Station (D.C.) Washington Navy Yard (D.C.) U.S. Soldiers and Airmen's Home (D.C.) Walter Reed Army Medical Center (D.C.) U.S. Naval Observatory (D.C.) Ft. McNair (D.C.) Naval Communications Annex (D.C.) East Coast Radio Receiving Station (Charles County) Blossom Point Proving Grounds (Charles County) U.S. Naval Ordnance Station (Charles County) Andrews Air Force Base (Prince Georges County) Patuxent Naval Air Test Center (St. Mary's County) Quantico U.S. Marine Reservation (Stafford County) Fort Myer (Arlington County)
Richmond, Va. (Subregion 21)	Richmond Veterans Administration Hospital Camp Pickett (Dinwiddie County) Fort Lee (Prince George County) Camp A. P. Hill Military Reservation (Caroline County) Defense General Supply Center (Chesterfield County)
Norfolk-Portsmouth, Va. (Subregion 22)	U.S. Naval Reservation (Fentress Landing Field, Chesapeake) U.S. Military Reservation (Isle of Wight) U.S. Military Reservation (Newport News) Big Bethel Reservation (Newport News) Craney Island Disposal Area (Portsmouth) U.S. Naval Transmitter Station (Suffolk) Dam Neck Naval Base (Virginia Beach) Coast Guard Communication Station (Virginia Beach) U.S. Military Reservation (Plum Tree Island Bombing Range, York County) Naval Supply Center (York County) Cheatham Annex Naval Supply Depot (York County) Yorktown Naval Weapons Station (York County) Camp Pendleton (Virginia Beach) Fort Eustis (Newport News) Oceana Naval Air Station (Virginia Beach) Fort Story (Virginia Beach) U.S. Naval Amphibious Base (Virginia Beach) Langley Air Force Base (Hampton) Fort Monroe (Hampton)

TABLE 3-27 (continued)
FEDERAL MILITARY INSTALLATIONS IN THE
ESTUARY AREA BY SUBREGION

SUBREGION	FEDERAL INSTALLATIONS
Norfolk-Portsmouth, Va. (Subregion 22) (cont'd)	Camp Wallace (James City County) Camp Peary (York County) U. S. Naval Weapons Stations (York County) U. S. Naval Shipyard (Portsmouth)
Wilmington SMSA	Perry Point Veterans Administration Hospital (Cecil County) U. S. Reservation (Veazy Cove, Cecil County) U. S. Reservation (C & D Canal, Cecil County) C & D Disposal Area (Sassafras River, Cecil County) C & D Disposal Area (Elk River near Port Herman, Cecil County) C & D Disposal Area (West View Shores, Cecil County)

NORFOLK-PORTSMOUTH, VIRGINIA SUBREGION

The Norfolk-Portsmouth Subregion provided employment for 108,959 people in the Armed Forces in 1970. This amounted to 43.7 percent of all the Armed Forces personnel in the Bay Region. Almost one in every four members of the work force (23.5 percent) was in the Armed Forces. Several factors are responsible for the presence of this large number of military personnel. The existence of many excellent shoreline sites, as well as the area's proximity to the ocean, has been largely responsible for the location of several large Naval bases. The area has also developed a large shipbuilding industry which has complemented naval operations (and vice versa).

WILMINGTON, DELAWARE SMSA

There were 4,466 Armed Forces personnel based in the Wilmington Subregion in 1970 representing about 2.3 percent of the area's work force. Of all those employed in this Sector in the Estuary Area, only 1.8 percent were located in this Subregion. This was the only Subregion which has a smaller percentage of its work force engaged in the Armed Forces than the United States as a whole.

Two of the three counties of the Wilmington Subregion contained no military installations. Only Cecil County, Maryland, maintained installations, one at Bainbridge (U.S. Naval Training Center) and the other at Perryville (Perryville Veterans Administration Hospital).

TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

The Transportation, Communications, and Public Utilities Sector includes employment in the following activities:

a. Railroad transportation (SIC 40);
b. Local and suburban transit and interurban highway passenger transportation (SIC 41);
c. Motor freight transportation and warehousing (SIC 42);
d. Water transportation (SIC 44);
e. Transportation by air (SIC 45)
f. Pipelines, except natural gas (SIC 46);
g. Transportation services (SIC 47);
h. Communication (SIC 48);
i. Electric, gas, and sanitary services (SIC 49).

There were 204,412 people employed in this Sector in 1970. This amounted to 6.2 percent of the Region's work force, just slightly lower than the National proportion. Employment in this Sector grew by 20.3 percent during the 1960-1970 decade, also higher than the National figure. Table 3-28 presents information on employment by Subregion in this Sector.

Historically, the economic development of the Estuary Area has been largely based on the natural transportation and communications network provided by the Chesapeake Bay and its tributaries. Transportation and communications systems have become increasingly complex since colonial times when 500 ton sailing ships with 10 to 15 foot drafts plied the Bay and when messages were sent between towns by horse or by boat. However, water-based transportation has remained extremely important to the Bay Region's economy. A total of approximately 150 million short tons of cargo was shipped on the Chesapeake Bay during 1970. Most of this freight (81.8 percent) passed through the ports of Baltimore (51 million short tons) or Hampton Roads (71 million short tons). About 70 percent of the total freight traffic in these two ports is foreign in origin or destination. Baltimore is basically an importing port. The major commodities (on a weight basis) coming into Baltimore are iron, copper, aluminum, manganese, and other nonferrous ores and concentrates, iron products, petroleum and petroleum products, limestone, lumber, sugar, salt, motor vehicles and motor vehicle parts, and equipment. Baltimore leads the Nation in the importing of automobiles and ranks second in iron ore and concentrates. Hampton Roads, on the

TABLE 3-28
EMPLOYMENT IN THE TRANSPORTATION, COMMUNICATIONS
AND PUBLIC UTILITIES SECTOR BY SUBREGION, 1970

Subregion	Railroads and Railway Express Services	Trucking Services	Other Transportation	Communication	Utilities and Sanitary Services	Total
Baltimore, Maryland	8,252	14,141	14,876	12,781	17,336	67,386
Percent of Total	12.2	21.0	22.1	19.0	25.7	100.0
Washington, D. C.	3,974	9,213	21,541	23,868	20,506	79,102
Percent of Total	5.0	11.6	27.2	30.2	25.9	100.0
Richmond, Virginia	3,180	5,009	3,176	5,162	4,646	21,173
Percent of Total	15.0	23.7	15.0	24.4	21.9	100.0
Norfolk-Portsmouth, Virginia	3,695	3,728	8,053	4,172	5,634	25,282
Percent of Total	14.6	14.7	31.9	16.5	22.3	100.0
Wilmington, Delaware SMSA	1,933	2,349	2,485	1,730	2,972	11,469
Percent of Total	16.9	20.5	21.7	15.1	25.9	100.0
Total Estuary Area	21,034	34,440	50,131	47,713	51,094	204,412
Percent of Total	10.3	16.8	24.5	23.3	25.0	100.0

Source: U. S. Census of Population: 1970, General Social and Economic Characteristics

other hand, is an export-oriented port. Well over half (65 percent) of the total freight tonnage passing through the port of Hampton Roads in 1970 was coal and lignite to be exported. Hampton Roads leads the Nation in this category. The port's location in relation to the coal-rich Central Appalachians gives the port a locational advantage over the other East Coast ports in the coal exporting business. Hampton Roads also conducts important trade in the exporting of corn, wheat, soybeans, tobacco leaf, and grain mill products.

The individual activities in the physical operation of a port such as Baltimore or Hampton Roads takes relatively few people. However, there are many support activities. Workers are needed to load and unload goods and passengers, dredge the channels, supply tugboat and towing services, perform salvaging operations, repair and maintain piers and docks, and perform a host of other activities.

The real impact of water transportation on the Estuary Area's economy is the industry which it attracts to the Region. Three different types of industries are attracted to the Area by the Bay's excellent port facilities. The first is the industries which locate at deepwater sites because of their need for raw materials which are most inexpensively transported by water. Examples of such firms in the Bay Region are Bethlehem Steel, American Smelting and Refining, American Cement, and many of the chemical firms which are located along the waterfront. The second group of industries locates near the water primarily to obtain deepwater access for the shipment of final products. The Western Electric Company ships many electric goods, particularly cable, through the Port of Baltimore. The last group of industries locates near the water because of the nature of their product. Shipbuilding activities in the Hampton Roads area is a good example of this type of industry. As an example of the economic importance of the Bay Region's port facilities, the Maryland Port Authority estimated in 1968 that the activities of the Port of Baltimore provided jobs, directly or indirectly, for more than half of the people working in the State of Maryland.

Although Baltimore and Hampton Roads contain the only major international deepwater ports in the Estuary Area, there is a good deal of barge traffic in the harbors of less important ports in the Bay Region. These ports include Washington, D. C. (including Alexandria, Virginia), Richmond, Hopewell, and Petersburg, Virginia, along with Piney Point, Annapolis, Salisbury, and Cambridge, Maryland. The major commodities shipped through these ports are petroleum and petroleum products, construction materials, and seafood.

There are many well-publicized conflicts between water quality in the Chesapeake Bay Region and the Area's water-transportation requirements. The ever increasing size of today's oceangoing ships (up to 60,000 tons with 40-foot drafts in the Bay) has made it necessary to deepen the Bay's ship channels to accommodate these vessels. However, the environmental effects of dredging and spoil disposal operations are not always clear and controversy often arises. For example, a proposed deepening of the James River channel to 35 feet from its present depth of 25 feet (only about 10 percent of the world's oceangoing vessels can navigate a 25 foot channel) was held-up until the effects of the dredging on the large oyster beds in the James could be determined. A hydraulic model of the James River was built to determine the environmental impact. The dredging of the Baltimore Harbor has also been held-up for several years because of problems with spoil disposal. The material dredged from the Baltimore Harbor is laden with heavy metals, noxious chemicals, and sewage. Consequently, the disposal site must be carefully selected to keep environmental damage and aesthetic degradation to a minimum.

Still another conflict between environmental considerations and channel maintenance and improvement operations occurred at the Chesapeake and Delaware Canal project. Since the Delaware Bay is slightly lower than the Chesapeake, large quantities of freshwater from the Susquehanna are diverted through the Canal and into the Delaware River system. The deepening of the Canal from 27 to 35 feet has tremendously increased (by over 2 times) the outflow of freshwater from the Chesapeake causing salinity changes throughout the Bay system and possibly damaging oysters, clams, and other kinds of wildlife which are sensitive to changes in salinity.

In addition to the problems mentioned above, ship discharges of oil, garbage, sewage, and other wastes into the Bay are a growing problem. In 1970 approximately 1.5 million gallons of oil were spilled into the Bay in numerous separate incidents. The untreated sewage dumped into the Bay by both commercial and pleasure vessels is equal to the waste from a city of 20,000 people. With the advent of the supertanker and the environmental and navigation problems associated with their use, the conflicts between advocates of environmental quality and those of economic efficiency are sure to intensify. Hydraulic models such as the one planned as part of the Chesapeake Bay Study can do a large part in resolving these problems.

A good land-based transportation system based on rail and truck service is an integral part of every major port. Such a system enables raw materials from the hinterland, such as coal and grain, to be transported into the major ports for

export overseas. Goods coming into the Region by water, such as foreign automobiles, are transported by rail and truck to all parts of the country.

Over a half of the employment in the Transportation Sector is accounted for by the Railroad and Trucking industries. Unfortunately, there is little data available on types of commodities shipped by rail or truck between production areas. We can only make some broad generalizations about the relative importance of the Railroad and Trucking industries in the Bay Region from the data that is available.

In addition to port-related activities, manufacturers throughout the Bay Region use rail and truck services to transport raw materials and finished goods. Of the approximately 12.0 million tons of goods shipped by firms in the Baltimore SMSA in 1967, about 63 percent were transported by trucks and about 34 percent by rail. Trucking is also very important on the Eastern Shore where fruits, vegetables, and poultry grown in the area are trucked to processing centers on the Eastern and Western Shores.

There has historically been a great deal of interdependence between these three basic modes of transportation. These relationships are emphasized by the trend toward containerization in the major world ports. Containers are truck-sized shipping boxes which, once packed and sealed, can be mounted directly on a truck chassis or a railroad flatcar for fast and efficient handling to and from a seaport terminal. Specially designed cranes can load a container ship in less than eight hours; it takes men five or six days to load an ordinary cargo ship.

Both Baltimore and Hampton Roads are making large investments in facilities which will handle container traffic. The two ports are competing for the second position (behind New York City) in container traffic on the East Coast. If one or both of these Bay ports can capture a large share of the container traffic, all phases of the transportation industry in the Estuary Area will be stimulated.

Transportation by air is also an important activity in the Bay Region. The industrial and commercial prominence of Baltimore and the political importance of Washington, D.C., help to create a high demand for this form of travel. There are two major international airports in the Baltimore-Washington area, Baltimore-Washington International Airport in Baltimore and Dulles International Airport just west of Washington. The major national airlines also serve Wilmington, Salisbury, Norfolk, Newport News, and Richmond. In addition, the relatively flat terrain of the Estuary Area makes possible the existence of numerous small municipal airports throughout the Area.

The telephone industry employs the majority of the workers in the Communications category although numerous television and radio stations also employ significant numbers of workers. The number of telephone calls per capita are often used to help measure the social and economic development of a region. The Estuary Area has a high rating in both of these indexes. The Washington Subregion has an unusually large number of workers in this industry due to the city's function as the Nation's capitol and as an international news center. All the major National radio and television broadcasting companies have offices in the Washington area.

The Public Utilities industry has obvious importance in the water resource planning process. Water-related activities in this category include its preparation for drinking, its use for the disposal and treatment of sewage, and its use for cooling purposes by power generating plants. The discharge of ever increasing volumes of both municipally and industrially treated sewage has received much attention over the years and, in fact, is expected to continue to cause some problems in the more populated areas of the Bay in the near future. Thermal pollution, however, has been receiving more and more attention over recent years, especially in relation to electric power generation. Since about 65 percent of the energy consumed in generating electricity is rejected at the plant site, the water used for cooling is returned to the Bay system at a higher temperature than the surrounding waters. It is still not clear what effects this heating will have on the ecology of the Estuary. The Chesapeake Bay is fortunate in that about one-third of the electricity used in the Bay Region is generated in the Appalachian coal fields and transported into the major urban areas by cable. As a result, the Bay does not have to handle what might be called its "fair share" of thermal discharge.

Nuclear power plants compound the thermal pollution problem since they discharge up to 50 percent more waste heat for each unit of electricity produced. Nuclear technology also creates strong incentives to build larger plants with higher demands for cooling water. For example, the Calvert Cliffs plant in Calvert County, Maryland uses and returns 5,000 cubic feet of heated water/second (cfs) compared to an annual average inflow of about 40,000 cfs for the Susquehanna River (the Bay's largest tributary in terms of inflow), approximately 14,000 cfs for the Potomac, and a total of about 4,000 cfs for all the rivers on the Eastern Shore of Maryland.

There are presently two nuclear power plants in the construction stage in the Estuary Area. These include the Calvert Cliffs plant operated by the Baltimore Gas and Electric Company in Calvert County, Maryland, and the Virginia Electric

and Power Company's North Anna facility located on the North Anna River about 24 miles from Fredericksburg, Virginia. The first nuclear steam plant in the Chesapeake Bay market was completed in 1972 and is located in Surry, Virginia. This plant, which has a capacity of 848 megawatts, is operated by the Virginia Electric and Power Company.

SERVICES

The Service Sector includes establishments primarily engaged in rendering a wide variety of services to individuals and business establishments. Specifically, such services include:

a. Hotels, rooming houses, camps, and other lodging places (SIC 70);
b. Personal services (SIC 72);
c. Business services (SIC 73);
d. Automotive repair services, and garages (SIC 75);
e. Miscellaneous repair services (SIC 76);
f. Motion pictures (SIC 78);
g. Amusement and recreation services, except motion pictures (SIC 79);
h. Health services (SIC 80);
i. Legal services (SIC 81);
j. Educational services (SIC 82);
k. Social services (SIC 83);
l. Museums, art galleries, botanical, and zoological gardens (SIC 84);
m. Membership organizations (SIC 86);
n. Private households (SIC 88);
o. Miscellaneous services (SIC 89).

In 1970, the Service Sector provided 859,332 jobs for workers in the Estuary Area, the highest of any Sector. This accounted for approximately 26 percent of the total work force and represented an increase of 53 percent over the number employed in 1960. On the National level, services made up 25 percent of the total U.S. employment. In addition, National employment in Services increased by a smaller percentage (38 percent) between 1960-1970 than did employment in the Chesapeake Bay Region.

There is a definite correlation between the size and income of a population and the number and kinds of services demanded. Although only a relatively small percentage of a population may demand a certain service, this small percentage can become a significant market in large concentrations of people. There are literally hundreds of examples of these kinds of services including golf courses, bowling alleys, theaters, automobile rentals, and museums. Higher income groups may demand more recreational facilities, medical, legal, and educational services, as well as certain domestic services. Again, a list of the types of services which could develop in high income areas would be extremely long and varied. In addition, such factors as types of commercial activities and proximity to recreational areas and tourist attractions can also determine the proportion of a region's work force engaged in service activities.

The Chesapeake Bay's land and water resources allow for the development of certain "regionally-unique" entertainment and recreation services which help to expand the Service Sector in the Estuary Area. These include such things as bathing beaches, pleasure boat rentals, party fishing boats, and the operation of beach and yacht clubs. These types of activities can be considered basic in many local economies in the Bay Region.

As Table 3-29 illustrates, educational, health, and professional services were the largest single employers in the Service Sector. Educational services alone accounted for about 28 percent of total Sector employment. Health and professional services accounted for 19 and 13 percents, respectively, of the total Service workers.

The Washington, D.C. Subregion contains almost half (46 percent) of the total Service workers in the Estuary Area although only about 38 percent of the Area's population resided there. The influence of a large Federal government sector in the Capital area is evident in the types of services which are predominant in the Subregion. About 60 percent of the Bay Region's employees in the professional services and approximately 46 percent in the Area's miscellaneous services (including business and research services) are in the Washington Subregion. The location in the National Capital area of the headquarters of many non-profit organizations is reflected in the large numbers of workers in the non-profit organizations category.

Both the Washington and Baltimore Subregions also have large numbers of workers employed in health and educational services. The University of Maryland is the largest university in the Estuary Area with over 30,000 students. Johns Hopkins

TABLE 3-29
NUMBER OF PEOPLE EMPLOYED IN VARIOUS SERVICES IN THE ESTUARY AREA BY SUBREGION

Subregion	Entertainment	Health	Educational	Non-profit Organizations	Professional Services	Miscellaneous Services
Baltimore, Md. (Subregion 17)	8,004	57,167	71,434	13,359	25,357	69,362
Washington, D. C. (Subregion 18)	10,625	64,129	107,533	30,854	64,994	117,689
Richmond, Va. (Subregion 21)	1,817	17,442	21,900	4,757	6,323	23,595
Norfolk-Portsmouth, Va. (Subregion 22)	2,779	18,435	27,786	5,524	7,736	31,302
Wilmington, Del. SMSA	1,251	9,764	16,070	2,744	4,496	15,104
Total Estuary Area	24,476	166,937	244,723	57,238	108,906	257,052

Source: U. S. Bureau of the Census, Census of Population: 1970, General Social and Economic Characteristics

University, George Washington University, American University, Howard University, the University of Baltimore, and the United States Naval Academy are also important centers of higher education in the Bay Region.

Johns Hopkins University, Georgetown University, and the University of Maryland carry on important medical research programs. In addition, the National Institute of Health and several other Federal agencies are also engaged in medical research in the Washington area. There are also numerous military hospitals employing significant numbers of medical personnel scattered throughout the Bay Region (see the Armed Forces Sector in this chapter for a listing of these hospitals).

The miscellaneous services category employed the highest proportion of Service workers in the Richmond Subregion. These activities (especially business services) are attracted to the area because of the location of the State Capital in Richmond. In addition, 23 percent of the Service workers in this Subregion are involved in health services. The Richmond Veterans Administration Hospital is a major employer in this category.

The Service Sector comprises only 20.1 percent of the total employment in the Norfolk-Portsmouth Subregion. This figure is significantly less than the figure of 26.1 percent for the total Estuary Area. This is, in part, an indication of the effects of income on the development of the Service Sector of a region. As pointed out in Chapter III of this appendix, the per capita income of the Norfolk-Portsmouth Subregion is by far the lowest of any Subregion in the Estuary Area. The area's figure of $3,084 per person in 1969 amounted to about 16 percent less than the figure for the Estuary Area as a whole. In addition, a large Armed Forces population in a region will usually result in a proportionately smaller Service Sector since many services are supplied to the military personnel right on base.

Activities in the Service Sector have little impact on the water resources of the Bay Region and will not be discussed in any more detail. However, since more than one of every four workers in the Bay Region is engaged in a Service activity, almost any water resource project will have some effects (directly or indirectly) on the Service Sector. These effects should be taken into account during any evaluation of a project.

FINANCE, INSURANCE, AND REAL ESTATE

This Sector includes banking, credit agencies, security and commodity brokers, dealers, exchanges, and services (SIC codes 60, 61, and 62) along with insurance (SIC 63 and 64), real estate (SIC 65) and other financial activities (SIC 66 and 67).

There were 157,974 people employed in the Finance, Insurance, and Real Estate Sector in 1970. This amounted to 4.8 percent of the total Estuary Area work force, slightly lower than the National figure of 4.9 percent. Employment in the Sector grew at a rate (47.8 percent) which was considerably higher than the National rate.

There are two basic sources of employment in the Finance category of this Sector in the Estuary Area. The first source includes such "normal" activities as work in savings banks, trust companies, credit agencies, security brokers, holding companies, and other types of investment companies. These activities obviously depend on the availability of money and are consequently attracted to the higher income areas in the Bay Region.

There is a surprising lack of large commercial banks in the Bay Region considering the relatively high levels of income and population density. In fact, of the fifty largest commercial banks (in terms of total assets) in the United States, none are headquartered in the Estuary Area. A major reason for this situation is that many of the large corporations in the area are owned and operated by interests outside the Bay Region. As a result, many of the earnings of these firms are deposited in banks in other regions.

Another major source of employment in this Sector is the National and international financial activities which take place in the Washington, D.C. area. The city serves as the headquarters for the United States Treasury, the Department of Housing and Urban Development with its numerous agencies dealing with mortgages and loans, the Federal Housing Administration, and the Small Business Administration. In addition, there are several international development organizations also located in the area such as the World Bank, the International Monetary Fund, and the Agency for International Development. Since important decisions affecting the entire National financial community often originate in Washington, most of the Nation's major banks have offices in the Capital area. Richmond also

has significant numbers of workers employed in these types of activities due to the City's function as a center of operations for one of the Nation's 12 Federal Reserve Districts.

In addition, the city of Baltimore has developed an important business designed to handle the international banking services required by a major port dealing in foreign trade. All of the major banks in the Baltimore area have international branches. However, financial interests in New York City still control a large part of the international financial activities transacted in the Bay Region.

The insurance industry is also an important employer in the Estuary Area. Washington, D.C. contains the headquarters for the many Federal agencies involved in insurance programs administered by the Federal government. The Federal Home Loan Bank Board, the Federal Deposit Insurance Corporation, and others play major roles in the functioning of the National money market. In addition, two of the 50 largest life insurance companies (Life Insurance of Virginia in Richmond and Acacia Mutual in Washington) are headquartered in the Estuary Area. The City of Richmond, Virginia, acts as a regional center for the insurance industry, serving large parts of the South Atlantic region.

The real estate industry also thrives in high-income, high-population growth areas such as the Estuary Area. There were over 584,000 new housing units built in the Bay Region during the 1960-1970 period. An important part of this activity involved the construction and sale of vacation homes, townhouses, and condominiums throughout the Bay Region but especially along the Western Shore and the Atlantic coast. In many cases, real estate developers have filled in valuable wetlands and carried on environmentally damaging dredging operations in an effort to increase the price of their waterfront properties. Recent laws passed by Maryland and Virginia attempt to control the destruction of wetlands by developers and other commercial or industrial interests.

Since the actual activities of the Finance, Insurance, and Real Estate Sector have no direct impact on the water resources of the Bay Region, this Sector will not be discussed in any more detail.

SUMMARY

The Manufacturing Sector is probably the most important Sector in the Estuary Area with respect to the water resource planning process. Navigation channels in the Chesapeake Bay are used by many Area Manufacturers as a means of shipping raw materials to their factories or final products to market. In addition, many Manufacturing firms use water in their production process, usually for cleaning or cooling purposes. This water is periodically returned to the Bay system either untreated or only partially treated. The Estuary Area is fortunate, from a water quality standpoint, that its economy has a relatively low level of Manufacturing activity when compared to the Nation or the coastal Northeastern States. Only 15.9 percent of the total number of workers in the Estuary Area were engaged in Manufacturing in 1970. The National figure is 25.3 percent. In addition, the Manufacturing industries which do exist in the Bay Region do not have high rates of water-usage. Of the five major water-using industries in the United States, only the Chemical industry and the Food industry have a higher proportion of workers employed in the Bay Region than in the United States as a whole.

Problems related to oil spills and the discharge of untreated industrial wastes can and have developed in certain areas of the Bay where Manufacturing activity is concentrated. Most of the Manufacturing activity is concentrated in the Baltimore and Wilmington Subregions. Sector employment is located in the Baltimore or Wilmington SMSA's. Other concentrations are located in the Washington and Richmond SMSA's and in the Hampton Roads area. Employment in the Chemical and Metal industries is centered around Baltimore, Wilmington, and Richmond. Food and Kindred Products employment is concentrated on the Eastern Shore, in the Washington SMSA, and in Norfolk. Other significant concentrations of Manufacturing within the Estuary Area are: Printing and Publishing and the two Machinery categories in the Washington Subregion, Transportation Equipment in the Norfolk-Portsmouth Subregion, and Chemicals, and Tobacco processing in the Richmond Subregion.

The Public Administration Sector ranks fourth in total employment in the Estuary Area. However, for several reasons this industry is far more important to the Region's economy than these employment figures indicate. First, high, steady paychecks in this Sector help to stimulate other Sectors of the economy. Second, the Federal portion of the Public

Administration Sector can be thought of as "basic" since it exports its "products" (public services) to the entire Nation.

In 1970, Public Administration accounted for about 14 percent of the total employment in the Estuary Area as compared to a National figure of approximately 6 percent. Almost 66 percent of the workers in the Sector are located in the Washington, D.C. Subregion. Other concentrations of workers are located in the Richmond, Virginia, vicinity, throughout much of the Baltimore, Maryland SMSA, and in the major urban areas of the Norfolk-Portsmouth Subregion. Three state capitals (Annapolis, Richmond, and Dover) are located in the Estuary Area.

The Agriculture, Forestry, and Fisheries Sector employed a surprisingly low percentage (1.6 percent) of the total workers in the Estuary Area. Most of these workers (68 percent) were engaged in Agriculture. Poultry and Poultry Products sold provided the greatest income for the Area, followed by Dairy Products and Vegetables which ranked second and third respectively. Wicomico and Worcester Counties, Maryland, and Sussex County, Delaware, had the highest value of Agricultural products sold.

Even though the Agricultural Sector is not of any great significance in terms of numbers employed, it has a great deal of impact on the water resource planning process. Poor farming techniques have resulted in extensive erosion and siltation of many of the Bay's waterways. Runoff from fields which have been sprayed with chemical fertilizers add large amounts of nutrients to the waterways. This can cause a tremendous build-up in the amounts of algae and other vegetation in the water thereby decreasing the amounts of oxygen and possibly causing fish kills. In addition, the indiscriminant use of insecticides annually causes tremendous damage to fish and wildlife (as well as human) populations in the Estuary Area.

The Construction Sector was provided an important stimulus during the 1960-1970 period by the tremendous influx of new people into the Bay Region. There was a net increase of over one-half million housing units in the Region during this time. As might be expected, housing construction activity in the Estuary Area was generally concentrated in those counties which experienced the highest gains in population. The Washington Subregion alone accounted for about 53 percent of the total increase in housing units. The Baltimore Subregion accounted for an additional 23 percent.

Increases in business and commercial activities in the Estuary Area helped to create a boom in the construction of new office

buildings during the Sixties. The construction of the Estuary Area's portion of the Interstate Highway System and the improvement of many other highways, roads, and bridges also provided a significant number of jobs during the decade.

Construction activities have a great deal of impact on the water resources of the Bay Region. Much of the disturbed soil on construction sites erodes and becomes sediment in streams and rivers. This silt can damage fish and wildlife populations, clog navigation channels, increase the costs of treatment for city and industrial water supplies, make water recreation less enjoyable, and generally lower the aesthetic quality of a waterway. In addition, the indiscriminant cutting of trees, paving of land, and the destruction of wetlands during construction activities greatly increases the runoff from a given rainfall which, in turn, increases the frequency and severity of floods. Unfortunately, the areas in the Bay Region with the most construction activity are the same areas in which there are already significant industrial and residential strains on the Bay's resources.

The Mining Sector is another category which has important implications for the water resources planning process although there were relatively few workers employed in this Sector. Most of the commodities mined in the Bay Region are used as building materials for local construction projects. As a result, the demand for these materials (sand, gravel, stone, and clay) has increased right along with the tremendous increases in construction activity throughout the Bay Region. A major part of the sand and gravel produced in the Bay Region is extracted from river bottoms by dredging operations. These operations can cause damage to finfish and shellfish populations due to the clouding and silting of waterways in the area of the dredging. The operation of quarries, the major method of extracting stone and clay in the Bay Region, can also cause environmental problems associated with erosion, acid mine drainage, and aesthetics.

Wholesale and Retail Trade activities employed just over 17 percent of the total workers in the Estuary Area. About 81 percent of these workers were engaged in Retail Trade. The relatively high incomes prevailing in the Bay Region are a major reason for the well-developed Retail Trade industry. The existence of modern highway systems around the major cities along with the movement of many higher-income families out of the city has led to the establishment of large shopping centers in the suburban counties. These counties have captured an increasing share of the retail sales in the Bay Region during the last several decades. The Washington, D.C., and Baltimore, Maryland, SMSA's contain the bulk (about 65 percent)

of the retail trade business in the Region with about $7.6 billion and $4.7 billion worth of sales in 1972. Other important retail centers are located in Richmond City, Wilmington, and in the Hampton Roads area of Virginia.

Wholesale trade in an area will often revolve around goods (manufactured or agricultural) which are produced in that area. For example, Baltimore specializes in the wholesaling of metal and metal products, Wilmington in drugs and chemicals, and Richmond in raw farm products (including tobacco auctioning and warehousing). Since the producing Sectors of the Estuary Area's economy are relatively small, the wholesale trade industry is not particularly well-developed in the Bay Region. The major SMSA's of the Study Area control the bulk of the wholesale business with about 94 percent of the total 1972 wholesale sales in the Bay Region.

The approximately quarter of a million Armed Forces personnel stationed in the Bay Region in 1970 represented almost 8 percent of the total Estuary Area employment. This percentage was significantly higher than the National figure of approximately 2.6 percent. There are several reasons for the large numbers of military personnel in the Region. First, military bases tend to be concentrated in the vicinity of the National Capital as a defense against invasion. Second, the Chesapeake Bay and its tributaries provide well-protected, deepwater harbors suitable for naval bases and related naval operations. Approximately 44 percent of all the Armed Forces personnel in the Bay Region are stationed in the Norfolk-Portsmouth Subregion.

Slightly over six percent of the Region's work force was employed in the Transportation, Communications, and Public Utilities Sector. The economic development of the Estuary Area has been largely based on the natural transportation network provided by the Chesapeake Bay and its tributaries. A total of about 150 million short tons of cargo was shipped on the Chesapeake Bay during 1970. Most of this freight (81.8 percent) passed through the ports of Baltimore (51 million short tons) or Hampton Roads (71 million short tons). Hampton Roads leads the Nation in the exporting of coal and lignite. Baltimore leads the country in the importing of automobiles and ranks second in iron ore and concentrates. The most important impact of water transportation on the Estuary Area's economy is the industry which it attracts to the Region. The Maryland Port Authority estimated that the activities of the Port of Baltimore provided jobs, directly or indirectly, for more than half of the people working in the State of Maryland.

The ever increasing size of today's oceangoing ships make it necessary to deepen the Bay's channels to accommodate these vessels. However, the environmental effects of dredging and spoil disposal operations are not always clear and controversy often arises. A hydraulic model such as the one planned as part of the Chesapeake Bay Study can do a large part in finding solutions to these problems.

In addition to these port-related transportation activities, manufacturers throughout the Bay Region use rail and truck services to transport raw materials and finished goods. Over a half of the employment in the Transportation Sector is accounted for by the Railroad and Trucking industries. Historically there has been a great deal of interdependence between the three basic modes of transportation: rail, truck, and water. These relationships have been emphasized by the trend toward containerization in the major world ports. Both Baltimore and Hampton Roads are making large investments in facilities which will handle container traffic. The two ports are competing for the second position (behind New York City) in container traffic on the East Coast of the United States.

The Public Utilities industry has obvious importance in the water resource planning process. Water-related activities in this category include its preparation for drinking, its use for the disposal and treatment of sewage, and its use for cooling purposes by power generating plants. Overloaded sewage treatment plants can contribute many gallons of pollutants to the Bay system. Thermal pollution, especially in relation to electric power generation, has recently come into the spotlight. It is still not clear what effects this heating will have on the ecology of the Estuary. Nuclear power plants compound the thermal pollution problem since they discharge up to 50 percent more waste heat for each unit of electricity produced. Nuclear technology also creates strong incentives to build large plants with high demands for cooling water. For example, the Calvert Cliffs, Maryland, plant will use and return 5,000 cubic feet of heated water/second to the Bay system, more than the average annual inflow (in cfs) of all the rivers on the Eastern Shore of Maryland. There are presently three nuclear power plants in the construction stage in the Estuary Area with between 10 and 20 additional nuclear plants planned for the Area during the next 20 years.

In 1970, the Service Sector provided more jobs for Bay Region workers than any other Sector. About one of every four workers was employed in some Service activity. Miscellaneous services (e.g., business, repair, research, and private household services), educational services, and health services were the most important categories in terms of employment in the Bay Region.

The Washington, D.C. Subregion contains almost half (46 percent) of the total Service workers in the Estuary Area although only about 38 percent of the Area's population resided there. In addition, about 60 percent of the Bay Region's employees in the professional services and approximately 46 percent in the Area's miscellaneous services are located in the Washington Subregion.

Both the Washington and Baltimore Subregions have large numbers of workers employed in health and educational services. The University of Maryland is the largest university in the Estuary Area with over 30,000 students. Johns Hopkins University, George Washington University, American University, Howard University, the University of Baltimore, and the United States Naval Academy are also important centers of higher education in the Bay Region.

The Norfolk-Portsmouth Subregion has the lowest percentage of workers employed in the Service Sector. This was largely due to the relatively low income levels prevailing in that area and to the large numbers of military personnel in the Subregion. Many of the services demanded by military personnel are supplied "on base" rather than in the local economy.

There are two basic sources of employment in the Finance category of the Finance, Insurance, and Real Estate Sector. The first source includes such "normal" activities as work in savings banks, trust companies, credit agencies, security brokerages, holding companies, and other types of investment companies. These activities obviously depend on the availability of money and are consequently attracted to the higher-income areas of the Bay Region. A second major source of employment in this category is the National and international financial activities centered in the Washington, D.C. area. Since important decisions affecting the entire National financial community often originate in Washington, most of the Nation's major banks have offices in the Capital area.

The insurance industry is also an important employer in the Estuary Area. Washington, D.C. contains the headquarters for the many Federal agencies involved in insurance programs administered by the Federal government. The City of Richmond, Virginia, acts as a regional center for the insurance industry, serving large parts of the South Atlantic region.

The Real Estate industry thrives in high-income, high population growth areas such as the Estuary Area. An important part of the Real Estate activity in the Region involved the sale of vacation homes, townhouses, and condominiums throughout the Bay Region but especially along the Western Shore and the Atlantic Coast.

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CHAPTER V

ECONOMIC AND DEMOGRAPHIC PROJECTIONS

In making economic and demographic projections for the Chesapeake Bay Study Area, a program of economic measurement, analysis, and projection conducted by the Bureau of Economic Analysis (BEA) - formerly the Office of Business Economics (OBE) - of the U.S. Department of Commerce, and the Economic Research Service (ERS) of the U.S. Department of Agriculture was used. The OBERS program, as it has come to be called, deals with the economic activity of the entire Nation and seeks to provide a regional economic information system covering both the past and the future. The OBERS historical and projected data form a National economic framework within which a region's present and future levels of economic development can be assessed and compared with those of other regions.

In 1967, the Bureau of the Census developed four sets of projections, Series A, B, C, and D, which assumed varying fertility rates. By December 1972, the Census Bureau had abandoned the Series A and B projections and had added Series E and F. At the time the Existing Conditions Report was developed, the Water Resources Council (WRC) required that all Federal agencies involved in water resources planning use the OBERS Series C projections of population, income, employment, earnings, and output. These projections are presented in a multi-volume series of reports entitled the 1972 OBERS Projections - Regional Economic Activity in the U.S. Starting in 1974, however, WRC directed that agencies involved in water resource planning use the Series E projections (generally, the E Series assumes lower fertility rates as well as less defense spending than the C Series). These Series E projections, published in a seven-volume series in April 1974, were derived from more recent economic and demographic data. Both Series of reports served as basic analytical frameworks for the assessment of the economic implications of proposed water and

related land resource development activities in the United States.

In this chapter, both the Series C and the Series E OBERS projections are presented for the Chesapeake Bay Study Area. The Series C projections are considered to be the baseline or reference set of projections for this report since the majority of the resource projections were made for the Future Conditions Report prior to the adoption of the Series E projections by the WRC. The Series E projections will be presented in a sensitivity analysis to provide alternative rates and patterns of growth to the baseline or reference Series C projections. A comparison of the assumptions made in each set of projections will also be provided. In addition, the two sets of projections will be compared in terms of "population" and "total employment" for the Estuary Area.

METHODOLOGY USED IN DEVELOPING OBERS PROJECTIONS

THE NATIONAL FRAMEWORK

The OBERS projection procedure calls first for projections of National totals of such things as Gross National Product (GNP) or employment. These totals are then disaggregated into National industry components such as the value of GNP originating in the "food and kindred products" industry. The National industry components are then distributed regionally in accordance with projected trends in the regional distributions of economic activities. Conceivably, the economy of each region could have been projected independently. However, the alternative course of first making National projections as a guide or control on the regional projections is followed because National trends as well as National inter-industry relationships, are generally more stable and measurable, and hence, projections have more reliability than those for smaller areas. This is another way of saying that National measurements can be more accurately made than can regional ones. The initial step in preparing the National projections was to project the

GNP to 2020. GNP is the product of projected annual employment, man-hours worked per year, and production per man-hour (generally referred to as "product per man-hour"). (For a more detailed discussion, see "State Projections of Income, Employment and Population," Survey of Current Business, April 1971).

National employment totals were derived from the Census Bureau's published projections of the population by applying to them estimated labor force participation ratios and unemployment rates derived from past trends in these variables. Hours worked per year and product per man-hour were also projected on the basis of the trends in these two variables since 1948.

Total GNP was disaggregated into the gross product originating (GPO) in each of 37 National industries. The GPO is the value of the GNP originating in a particular industry such as the "primary metal industries." This disaggregation represented an extension of trends in the industrial composition of the economy over the past two decades. National totals of aggregate personal income and earnings of persons engaged in each industry and employment by industry were derived from past relationships and from separate analyses of the industrial composition of earnings and employment.

THE ECONOMIC AREA FRAMEWORK

Inasmuch as the preparation of projections requires a knowledge and extension of past relationships, the more precisely such relationships can be identified and measured, the more accurate the projections will be. Although for water and related land resources planning economic projections are needed on a water resources subarea basis, such geographic areas are not satisfactory units for use in preparing projections. Accordingly, projections were made first for some 173 nodal-functional economic areas and then converted to the water resources subareas. These economic areas (known as BEA economic areas) are presented in Figure 3-21.

From a geographic point of view, an economic area encompasses a principal trade and labor market center together with the surrounding county units whose economic activity is focused on the center. An area includes, as closely as possible, both the place of work and the place of residence of its workers. This characteristic allows the regional economic analyst wide scope inasmuch as he may, at one and the same time, view an area's workers in both their producing and consuming roles.

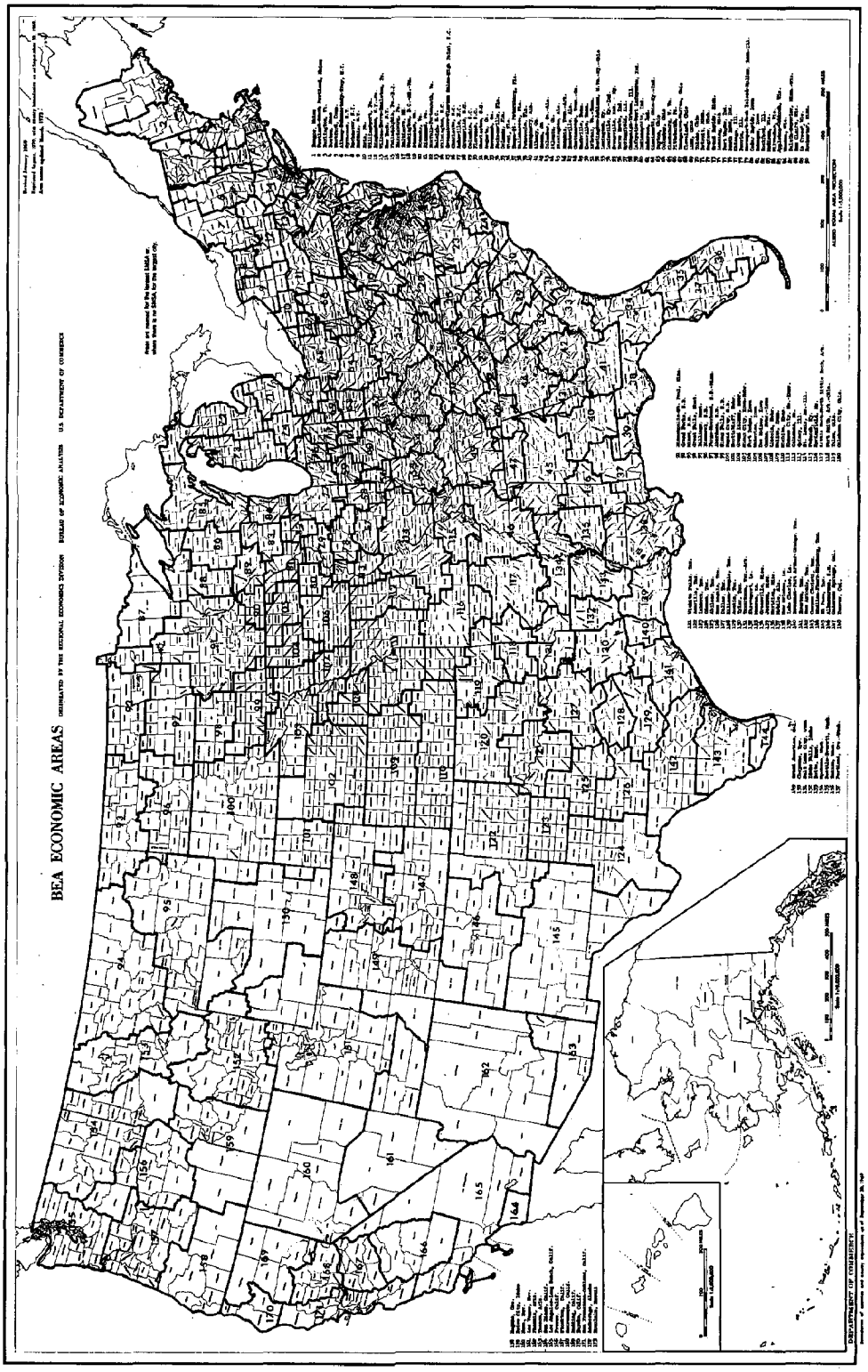

FIGURE 3-21

From an industrial point of view, an area's economy may be viewed in terms of a group of "basic" industries and a related group of "residentiary" industries. Basic industries are those which play the central role in an area's development. In the production of its basic industries, an area has special economic advantages relative to other areas. Thus, much of its basic-industry output tends to be exported to other areas in return for outputs in which its product mix is deficient. In every area, the basic group includes agriculture; mining; all manufacturing, except food and kindred products; printing and publishing; and armed forces. Residentiary industries tend to spring from basic industries. Their origin may be viewed as a response to requirements for special services on the part of both basic-industry firms (e.g., transportation and wholesaling), and basic-industry workers in their role as consumers (e.g., recreation and retailing). It is important to note that the interdependence of an area's basic and residentiary industries is integral to the BEA economic area projection process. The residentiary group in every area typically includes contract construction, transportation, communications, utilities, trade, finance, business and professional services, and civilian government activities. However, in areas where one or more of these typically residentiary activities serve larger than regional markets, they are treated as basic activities.

The initial step in the economic area (as distinct from the National) projection process was the calculation of the shares of earnings and employment in each basic industry received by residents of each of the 173 areas of the Nation for nine selected years from 1929 to 1968. Changes in the shares accruing to each region were analyzed industry-by-industry. Mathematical extensions of these trends were calculated and then modified in accordance with information from other sources. Projected shares of earnings and employment for selected years in each region were applied to the National totals in the appropriate industry to obtain projected earnings in dollar terms and employment in numbers of persons.

Earnings and employment in nonbasic or residentiary industries were then allocated to the 173 regions in accordance with projections of the trend in past relationships of basic and residentiary industries. Income projections were developed from the projections of total earnings. Population was then projected on the basis of projected employment and income.

The economy of the Estuary Area is best understood in the light of the relationship to the various BEA economic areas within which it is contained. Consequently, they are the primary areas which will be used for the analysis of the economic effects of water resources development and management programs for the Chesapeake Bay area.

COMPARISON OF OBERS SERIES C AND SERIES E PROJECTIONS

There are a number of basic differences between the Series C and Series E projections as shown in Table 3-30. Such differences must be understood in order to use the two sets of projections effectively in water resource planning.

The National personal income, earnings, and employment data for Series C are presented in Tables 3-31 and 3-32. For comparative purposes, those same data for Series E are presented in Tables 3-33 and 3-34.

The Series C OBERS projections and the methodology used in developing them are presented below. This will be followed by a presentation of Series E OBERS projections and their related methodology. The final portion of the chapter will consist of the comparison of the two sets of projections with regard to population and total employment within the Estuary Area.

ECONOMIC AND DEMOGRAPHIC PROJECTIONS USING SERIES C OBERS PROJECTIONS

THE CHESAPEAKE BAY SUBSEGMENTS

In order for the Chesapeake Bay Study to meet the planners' needs, it was necessary to disaggregate the baseline or Series C projections for the analytical economic area unit. This was accomplished by the Regional Economic Division, Bureau of Economic Analysis, U. S. Department of Commerce. Projections were made for standard metropolitan statistical areas (SMSA's) and for both non-SMSA Estuary and non-SMSA non-Estuary subsegments (outside Study Area) of the economic areas. Putting the SMSA and these subsegment projections into a form accessible to Chesapeake Bay Study planners

TABLE 3-30

A COMPARISON OF OBERS SERIES C AND SERIES E PROJECTIONS

Item	Series C	Series E
Growth of Population	Fertility rate of 2,800 children per 1,000 women	Gradual decline of fertility rate from 2,800 to the "replacement fertility rate" of 2,100 children per 1,000 women.
Military Establishment	Projects a decline to 2.07 million people by 1975 and thereafter a constant.	Projects a decline to 1.57 million persons by 1975 and thereafter a constant (due to smaller military establishment and the resultant smaller need for equipment and supplies, a significantly slow rate of growth in the defense-related manufacturing industries is anticipated).
Hours Worked Per Year	Hours worked per employee per year are projected to decline at 0.25 percent per year.	Hours worked per employee per year are projected to decline at 0.35 percent per year.
Product Per Man-Hour	Projected to increase 3.0 percent per year.	Projected to increase 2.9 percent per year.
Earnings Per Worker	Earnings per worker in the individual industries at the national level are projected to converge toward the combined rate for all industries more slowly in the Series E projections than in the Series C projections.	
Employed Population	Projected to increase from 40 to 41 percent of the total population.	Projected to be between 43 and 45 percent of the total population (higher percentages with the E Series reflects expected higher participation rates by women).

TABLE 3-31
DEMOGRAPHIC AND ECONOMIC TRENDS FOR THE UNITED STATES, 1950-1969

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES,
SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	151,871,000	177,124,000	185,849,000	199,798,000	201,877,000
PER CAPITA INCOME (1967$)	2,065	2,441	2,583	3,304	3,416
PER CAPITA INCOME RELATIVE (US=1.00)	1.00	1.00	1.00	1.00	1.00
TOTAL EMPLOYMENT	57,474,912	66,372,649			
EMPLOYMENT/POPULATION RATIO	.38	.37			
EARNINGS PER WORKER (1967$)	4,502	5,360			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.00	1.00			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	313,569,016	432,349,206	480,053,606	660,045,911	689,625,787
TOTAL EARNINGS	258,747,759	355,766,604	389,998,43a	529,659,952	554,911,996
AGRICULTURE, FORESTRY & FISHERIES	23,597,264	17,042,358	18,462,090	18,415,005	19,571,289
AGRICULTURE	23,131,448	16,691,335	18,098,279	18,131,177	19,311,920
FORESTRY & FISHERIES	465,815	351,023	363,811	283,828	259,369
MINING	5,145,232	5,149,264	4,908,611	5,274,946	5,700,573
METAL	547,307	645,480	667,65a	719,223	813,309
COAL	2,284,452	1,260,981	1,016,09a	1,182,615	1,278,321
CRUDE PETROLEUM & NATURAL GAS	1,734,785	2,357,008	2,394,91a	2,449,220	2,678,918
NONMETALLIC, EXCEPT FUELS	562,841	885,796	829,937	923,888	930,026
CONTRACT CONSTRUCTION	15,483,087	21,852,640	22,990,095	31,676,705	34,063,565
MANUFACTURING	74,817,598	107,255,073	115,576,45a	155,607,034	161,427,007
FOOD & KINDRED PRODUCTS	8,050,358	10,570,806	11,082,792	12,576,266	12,748,943
TEXTILE MILL PRODUCTS	5,090,329	4,243,747	4,303,347	5,380,174	5,466,214
APPAREL & OTHER FABRIC PRODUCTS	4,533,807	4,995,059	5,366,914	6,775,178	6,813,083
LUMBER PRODUCTS & FURNITURE	4,749,634	5,222,319	5,063,806	6,697,946	6,887,190
PAPER & ALLIED PRODUCTS	2,507,683	3,896,797	4,401,596	5,408,171	5,677,415
PRINTING & PUBLISHING	4,237,267	6,046,717	6,561,243	8,257,066	8,666,650
CHEMICALS & ALLIED PRODUCTS	3,653,572	6,198,112	6,947,701	9,672,343	10,118,193
PETROLEUM REFINING	1,433,283	1,835,808	1,755,527	2,405,777	2,523,295
PRIMARY METALS	6,696,935	9,143,450	9,521,533	12,273,130	12,902,711
FABRICATED METALS & ORDNANCE	5,481,271	9,099,387	10,563,766	14,058,155	14,374,634
MACHINERY, EXCLUDING ELECTRICAL	0	10,653,431	11,607,37?	17,424,504	18,433,768
ELECTRICAL MACHINERY & SUPPLIES	0	9,394,820	11,426,41?	15,285,178	15,978,094
MOTOR VEHICLES & EQUIPMENT	4,618,238	5,367,607	5,955,851	10,370,327	10,737,902
TRANS. EQUIP., EXCL. MTR. VEHS.	2,629,937	7,572,338	7,222,565	11,004,595	11,215,882
OTHER MANUFACTURING	9,151,692	13,014,674	13,796,030	18,018,226	18,883,033
TRANS., COMM. & PUBLIC UTILITIES	21,131,028	27,392,039	28,694,815	36,552,940	38,558,070
RAILROAD TRANSPORTATION	7,698,841	6,925,196	6,296,289	5,820,396	5,762,637
TRUCKING & WAREHOUSING	2,990,386	5,458,891	6,041,076	8,827,618	9,266,906
OTHER TRANSPORTATION & SERVICES	4,029,078	5,317,682	5,743,632	8,123,841	8,569,386
COMMUNICATIONS	3,427,517	5,298,283	5,813,23a	7,704,857	8,585,134
UTILITIES (ELEC., GAS, SANITARY)	2,901,633	4,391,988	4,800,586	6,076,228	6,374,008
WHOLESALE & RETAIL TRADE	48,939,614	63,499,623	67,565,645	87,077,150	91,115,615
FINANCE, INSURANCE & REAL ESTATE	10,911,234	18,109,611	19,805,66ñ	27,739,804	28,932,679
SERVICES	28,904,344	45,244,956	52,608,614	77,245,516	81,704,203
LODGING PLACES & PERSONAL SERV.	5,001,457	6,244,013	6,696,890	9,369,207	9,429,011
BUSINESS & REPAIR SERVICES	3,423,398	6,721,210	8,413,48a	14,134,421	15,387,101
AMUSEMENT & RECREATION SERVICES	2,225,382	2,704,068	2,982,587	3,571,015	3,773,828
PRIVATE HOUSEHOLDS	4,723,579	5,350,849	5,402,13a	4,389,674	4,438,926
PROFESSIONAL SERVICES	13,423,606	24,224,816	29,113,511	45,781,199	48,675,337
GOVERNMENT	29,818,358	50,221,040	59,386,445	90,070,855	93,838,995
CIVILIAN GOVERNMENT	23,930,883	40,409,800	49,091,55a	74,970,068	78,494,504
FEDERAL GOVERNMENT	9,500,682	14,249,631	16,569,969	23,193,735	23,801,792
STATE & LOCAL GOVERNMENT	14,430,201	26,160,169	32,521,59ñ	51,776,333	54,692,712
ARMED FORCES	5,887,475	9,811,240	10,294,886	15,100,787	15,344,490

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING

TABLE 3-32
DEMOGRAPHIC AND ECONOMIC PROJECTIONS
FOR THE UNITED STATES, 1980-2020, SERIES C

~~POPULATION, EMPLOYMENT,~~ TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	234,208,000	269,759,000	306,782,000	350,111,000	399,013,000
PER CAPITA INCOME (1967$)	4,765	6,166	8,289	10,895	14,260
PER CAPITA INCOME RELATIVE (US=1.00)	1.00	1.00	1.00	1.00	1.00
TOTAL EMPLOYMENT	93,820,000	106,917,000	124,641,000	143,441,000	163,622,000
EMPLOYMENT/POPULATION RATIO	.40	.40	.41	.41	.41
EARNINGS PER WORKER (1967$)	9,396	12,167	15,811	20,450	26,569
EARNINGS PER WORKER RELATIVE(US=1.00)	1.00	1.00	1.00	1.00	1.00
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,115,898,374	1,663,439,352	2,542,848,587	3,814,449,639	5,690,073,434
TOTAL EARNINGS	881,560,093	1,300,809,248	1,970,738,630	2,933,311,710	4,347,216,053
AGRICULTURE, FORESTRY & FISHERIES	19,855,395	21,588,666	25,493,389	33,173,554	44,457,551
AGRICULTURE	19,449,249	21,055,528	24,784,064	32,235,414	43,241,401
FORESTRY & FISHERIES	406,146	533,138	709,326	938,140	1,216,150
MINING	7,284,316	8,713,264	10,710,816	13,032,141	16,013,596
METAL	970,174	1,223,015	1,575,389	2,022,722	2,606,199
COAL	1,755,009	1,996,408	2,330,478	2,692,005	3,094,719
CRUDE PETROLEUM & NATURAL GAS	3,210,270	3,712,518	4,362,352	5,004,177	5,751,257
NONMETALLIC, EXCEPT FUELS	1,348,863	1,781,322	2,442,597	3,313,237	4,561,421
CONTRACT CONSTRUCTION	52,486,659	77,410,299	117,117,657	173,988,405	256,404,026
MANUFACTURING	240,993,356	339,090,792	492,557,951	707,532,789	1,020,907,097
FOOD & KINDRED PRODUCTS	17,134,788	21,625,277	28,070,987	36,090,942	47,001,970
TEXTILE MILL PRODUCTS	7,536,012	9,688,014	12,843,369	16,887,669	22,501,637
APPAREL & OTHER FABRIC PRODUCTS	9,704,031	12,795,318	17,433,392	23,601,092	32,318,931
LUMBER PRODUCTS & FURNITURE	9,458,055	12,327,392	16,585,633	22,164,135	30,017,056
PAPER & ALLIED PRODUCTS	8,699,535	12,509,299	18,536,278	27,089,372	39,616,976
PRINTING & PUBLISHING	13,080,192	18,634,669	27,381,110	39,725,663	57,774,566
CHEMICALS & ALLIED PRODUCTS	16,041,054	23,575,922	35,595,558	52,831,025	78,190,557
PETROLEUM REFINING	3,234,296	4,083,198	5,299,348	6,801,517	8,905,468
PRIMARY METALS	16,173,767	19,882,853	25,017,455	31,047,866	39,051,804
FABRICATED METALS & ORDNANCE	23,374,565	34,512,120	52,300,176	77,869,073	115,375,233
MACHINERY, EXCLUDING ELECTRICAL	27,852,469	39,973,927	59,115,420	86,253,987	125,844,650
ELECTRICAL MACHINERY & SUPPLIES	27,040,176	41,784,995	65,708,716	100,736,813	153,810,382
MOTOR VEHICLES & EQUIPMENT	15,187,575	21,079,554	30,237,862	42,950,806	61,292,592
TRANS. EQUIP., EXCL. MTR. VEHS.	17,301,823	24,472,876	35,732,847	51,541,654	74,542,107
OTHER MANUFACTURING	29,175,018	42,145,379	62,699,803	91,941,176	134,663,168
TRANS., COMM. & PUBLIC UTILITIES	56,816,977	80,039,380	116,398,035	167,348,203	241,305,688
RAILROAD TRANSPORTATION	7,290,036	8,491,313	9,967,168	11,317,175	12,814,767
TRUCKING & WAREHOUSING	14,226,554	20,546,415	30,552,482	44,798,485	65,593,164
OTHER TRANSPORTATION & SERVICES	13,080,192	18,881,789	28,070,987	41,132,874	60,206,866
COMMUNICATIONS	12,851,377	18,985,899	28,798,617	42,892,459	63,595,612
UTILITIES (ELEC.,GAS, SANITARY)	9,368,818	13,133,963	19,008,781	27,207,211	39,095,279
WHOLESALE & RETAIL TRADE	148,563,661	220,080,837	335,481,240	501,615,581	746,467,897
FINANCE, INSURANCE & REAL ESTATE	45,110,817	65,565,707	98,040,232	144,362,623	212,159,273
SERVICES	145,219,534	229,988,514	368,579,286	573,022,927	876,784,730
LODGING PLACES & PERSONAL SERV.	15,379,780	22,497,061	33,822,244	50,016,604	73,760,705
BUSINESS & REPAIR SERVICES	26,765,031	42,549,236	68,373,263	106,513,240	163,202,081
AMUSEMENT & RECREATION SERVICES	5,949,182	8,791,061	13,336,464	19,878,277	29,495,358
PRIVATE HOUSEHOLDS	5,675,748	6,840,415	8,391,779	10,085,008	12,249,595
PROFESSIONAL SERVICES	91,445,793	149,310,741	244,655,535	386,529,798	598,076,992
GOVERNMENT	165,229,379	258,331,790	406,360,024	619,235,487	932,716,194
CIVILIAN GOVERNMENT	146,378,480	233,873,787	374,582,239	578,114,054	879,295,971
FEDERAL GOVERNMENT	39,368,712	56,788,375	82,059,814	113,706,030	152,856,224
STATE & LOCAL GOVERNMENT	107,009,768	177,085,412	292,522,425	464,408,024	726,439,747
ARMED FORCES	18,850,899	24,458,003	31,777,785	41,121,433	53,420,223

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING

TABLE 3-33
DEMOGRAPHIC AND ECONOMIC TRENDS FOR THE UNITED STATES, 1950-1971

POPULATION, EMPLOYMENT, PERSONAL INCOME, AND EARNINGS BY INDUSTRY FOR HISTORICAL SELECTED YEARS, 1950-1971

	1950**	1962*	1969	1970	1971
Population, midyear	151,236,648	185,708,000	201,298,000	203,857,864	206,188,080
Per capita income (1967 $)	2,064	2,585	3,435	3,476	3,544
Per capita income relative (U.S.=1.00)	1.00	1.00	1.00	1.00	1.00
Total employment	57,221,773	66,372,649		79,306,527	
Employment/population ratio				.39	
Earnings per worker (1967 $)				7,090	
Earnings per worker relative (U.S.=1.00)				1.00	
			In Thousands of 1967 Dollars		
Total personal income	312,147,612	480,053,606	691,450,638	708,583,931	730,630,679
Total earnings	257,495,988	389,998,433	556,542,319	562,311,127	575,459,943
Agriculture, forestry and fisheries	23,467,939	18,462,090	20,086,322	19,640,721	19,563,957
Agriculture			19,826,212	19,348,268	19,267,216
Forestry and fisheries			260,111	292,454	296,741
Mining	5,129,386	4,908,611	5,418,046	5,647,503	5,602,367
Metal			806,825	856,674	819,214
Coal			1,257,943	1,484,370	1,484,985
Crude petroleum and natural gas			2,452,895	2,358,725	2,340,855
Nonmetallic, except fuels			900,383	947,734	957,313
Contract construction	15,370,217	22,990,095	34,359,988	34,457,902	35,967,845
Manufacturing	74,706,597	115,576,458	161,773,451	156,291,199	154,042,932
Food and kindred products			12,835,090	13,106,486	13,195,228
Textile mill products			5,498,636	5,276,189	5,297,186
Apparel and other fabric products			6,788,999	6,452,900	6,422,434
Lumber products and furniture			6,881,631	6,498,872	6,719,090
Paper and allied products			5,670,931	5,681,098	5,667,154
Printing and publishing			8,727,787	8,779,798	8,770,961
Chemicals and allied products			10,112,635	10,230,574	10,218,438
Petroleum refining			2,488,096	2,624,834	2,725,315
Primary metals			12,879,553	12,284,292	11,876,473
Fabricated metals and ordnance			14,577,868	13,574,253	13,047,412
Machinery, excluding electrical			18,521,768	18,047,609	16,789,200
Electrical machinery and supplies			16,060,536	15,527,981	14,733,066
Motor vehicles and equipment			10,908,344	9,941,480	11,438,308
Transportation equip., excl. mtr. vehs.			10,885,742	9,708,878	8,603,367
Other manufacturing			18,935,833	18,555,955	18,539,300
Trans., comm. and public utilities	21,047,455	28,694,815	38,611,797	39,925,053	41,690,409
Railroad transportation			5,789,500	5,721,766	5,833,384
Trucking and warehousing			9,302,105	9,252,781	10,105,061
Other transportation and services			8,576,797	8,872,627	8,783,748
Communications			8,542,523	9,313,783	9,846,765
Utilities (elec., gas, sanitary)			6,400,871	6,764,096	7,121,451
Wholesale and retail trade	48,774,013	67,565,645	91,431,489	93,080,363	95,825,881
Finance, insurance and real estate	10,886,662	19,805,660	28,875,247	28,880,241	30,917,872
Services	28,797,423	52,608,614	81,997,846	85,077,671	88,250,069
Lodging places and personal services			9,329,895	9,174,982	9,064,207
Business and repair services			15,472,323	15,807,350	15,837,854
Amusement and recreation services			3,605,237	3,724,629	3,807,939
Private households			4,261,998	4,193,191	4,145,313
Professional services			49,328,393	52,177,518	55,394,556
Government	29,316,295	59,386,445	93,988,132	99,310,475	103,598,611
Federal government	9,302,445	16,569,969	23,831,435	25,287,340	26,155,178
State and local government	14,342,132	32,521,590	54,685,301	58,863,815	62,578,236
Armed forces	5,671,718	10,294,886	15,471,397	15,159,320	14,865,197

*Employment is for 1960.
**Alaska and Hawaii excluded.

TABLE 3-34

DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR THE UNITED STATES, 1980-2020 (SERIES E PROJECTION)

POPULATION, EMPLOYMENT, PERSONAL INCOME, AND EARNINGS BY INDUSTRY
FOR PROJECTED SELECTED YEARS, 1980-2020

	1980	1985	1990	2000	2020
Population, midyear	223,532,000	234,517,300	246,039,000	263,830,000	297,146,000
Per capita income (1967 $)	4,700	5,400	6,100	8,100	13,200
Per capita income relative (U.S.=1.00)	1.00	1.00	1.00	1.00	1.00
Total employment	96,114,000	101,121,100	106,388,000	117,891,000	130,534,000
Employment/population ratio	.43	.43	.43	.45	.44
Earnings per worker (1967 $)	8,700	9,800	11,000	14,000	22,900
Earnings per worker relative (U.S.=1.00)	1.00	1.00	1.00	1.00	1.00
	In Thousands of 1967 Dollars				
Total personal income	1,068,496,000	1,273,226,200	1,517,173,000	2,154,266,000	3,931,928,000
Total earnings	837,490,000	992,723,000	1,176,711,000	1,657,332,000	3,000,899,000
Agriculture, forestry and fisheries	21,264,000	22,122,800	23,016,000	25,856,000	32,975,000
Agriculture	20,897,000	21,713,600	22,562,000	25,292,000	32,144,000
Forestry and fisheries	367,000	408,100	454,000	564,000	831,000
Mining	6,498,000	6,896,300	7,319,000	8,402,000	11,106,000
Metal	972,000	1,041,000	1,115,000	1,298,000	1,741,000
Coal	1,814,000	1,974,800	2,150,000	2,574,000	3,594,000
Crude petroleum and natural gas	2,528,000	2,588,700	2,651,000	2,851,000	3,425,000
Nonmetallic, except fuels	1,184,000	1,288,800	1,403,000	1,679,000	2,346,000
Contract construction	51,910,000	60,857,100	71,347,000	97,584,000	166,004,000
Manufacturing	219,486,000	252,984,700	291,595,000	388,479,000	641,982,000
Food and kindred products	16,016,000	17,444,400	19,000,000	22,785,000	31,850,000
Textile mill products	6,721,000	7,382,400	8,109,000	9,877,000	14,143,000
Apparel and other fabric products	8,736,000	9,824,200	11,048,000	14,027,000	21,418,000
Lumber products and furniture	8,925,000	10,036,300	11,286,000	14,329,000	21,825,000
Paper and allied products	8,378,000	9,734,700	11,311,000	15,224,000	25,296,000
Printing and publishing	13,015,000	15,282,500	17,945,000	24,633,000	42,190,000
Chemicals and allied products	15,632,000	18,774,600	22,549,000	32,251,000	58,746,000
Petroleum refining	3,385,000	3,765,100	4,188,000	5,213,000	7,720,000
Primary metals	14,302,000	15,317,000	16,404,000	19,088,000	25,528,000
Fabricated metals and ordnance	19,479,000	22,553,000	26,112,000	34,939,000	57,563,000
Machinery, excluding electrical	24,539,000	28,108,900	32,198,000	42,128,000	67,600,000
Electrical machinery and supplies	25,078,000	30,529,300	37,166,000	54,443,000	102,899,000
Motor vehicles and equipment	15,523,000	18,012,700	20,902,000	28,070,000	46,496,000
Transportation equip., excl. mtr. vehs	11,634,000	12,845,800	14,184,000	17,166,000	24,358,000
Other manufacturing	28,123,000	33,199,900	39,193,000	54,306,000	94,350,000
Trans., comm. and public utilities	58,672,000	69,036,800	81,233,000	112,976,000	200,497,000
Railroad transportation	5,612,000	5,502,900	5,396,000	5,162,000	4,741,000
Trucking and warehousing	14,784,000	17,646,500	21,063,000	29,770,000	53,243,000
Other transportation and services	12,408,000	14,278,900	16,432,000	21,743,000	35,247,000
Communications	15,785,000	19,624,500	24,398,000	37,118,000	74,286,000
Utilities (elec., gas, sanitary)	10,083,000	11,857,300	13,944,000	19,183,000	32,980,000
Wholesale and retail trade	133,912,000	154,867,400	179,102,000	243,455,000	409,485,000
Finance, insurance and real estate	48,461,000	59,224,100	72,377,000	106,885,000	204,488,000
Services	150,270,000	187,755,300	234,589,000	359,761,000	734,985,000
Lodging places and personal services	11,433,000	12,600,900	13,888,000	17,014,000	24,564,000
Business and repair services	28,786,000	36,774,600	46,980,000	75,153,000	162,902,000
Amusement and recreation services	5,345,000	6,197,900	7,187,000	9,644,000	15,962,000
Private households	4,488,000	4,615,200	4,746,000	5,142,000	6,216,000
Professional services	100,218,000	127,334,700	161,788,000	252,808,000	525,341,000
Government	147,017,000	178,255,800	216,133,000	313,934,000	599,377,000
Federal government	36,388,000	43,583,000	52,201,000	73,074,000	140,682,000
State and local government	95,158,000	117,156,300	144,239,000	215,755,000	417,677,000
Armed forces	15,471,000	17,454,800	19,693,000	25,105,000	41,018,000

*Employment is for 1960.
**Alaska and Hawaii excluded.

required several steps. One step involved aggregating the projections for two or more single-State non-SMSA subsegments into projections for the appropriate non-SMSA Estuary or non-SMSA non-Estuary subsegments. Another step required further disaggregations of the projections for given single-State non-SMSA subsegments in order to divide those subsegments into their Estuary and non-Estuary parts. These further disaggregations were accomplished by holding constant into the future the average of the 1967 and 1968 percent shares of the various income, employment, and population series for the given single-State non-SMSA subsegments accounted for by the geographic parts of those subsegments. A constant rather than a trended percent share methodology was employed because the geographic parts were too small for meaningful trends to be established.

In short, projections for the Chesapeake Bay subsegments were derived as the result of a process of successive disaggregation and reaggregation of the BEA economic area projections in increasingly greater geographic detail. Care was taken to assure that every data series for every geographic configuration within the system was additive to the corresponding data series at the next higher level of geographic detail.

The area of primary concern in the Chesapeake Bay Study, for projection purposes, has been defined as the counties or SMSA's which touch or have a major influence on the Estuary. As indicated in Figure 3-1, the Estuary Area encompasses seven SMSA's, 35 non-SMSA counties, and four independent cities.

Six BEA economic areas--Philadelphia (15), Harrisburg (16), Baltimore (17), Washington (18), Richmond (21), and Norfolk-Portsmouth (22)--are of particular interest to Chesapeake Bay Study planners. Each of these areas has been subdivided into constituent SMSA, non-SMSA Estuary, and non-SMSA residual (or non-Estuary subsegments). Projections include population, total personal income, earnings and employment for 36 industry categories. Historical trends and projections (using the C Series) as well as a county breakdown for each subsegment, are presented in Tables 3-37 to 3-112. Preceding these in Tables 3-35 and 3-36 are trends and projections for the Chesapeake Bay Estuary Area as a whole.

TABLE 3-35
DEMOGRAPHIC AND ECONOMIC TRENDS FOR THE TOTAL CHESAPEAKE BAY ESTUARY AREA, 1950-1969

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	4,957,764	6,329,484	6,737,344	7,670,291	7,776,041
PER CAPITA INCOME (1967$)	2,370	2,598	2,805	3,563	3,682
PER CAPITA INCOME RELATIVE (US=1.00)	1.15	1.06	1.09	1.07	1.07
TOTAL EMPLOYMENT	2,078,330	2,533,420			
EMPLOYMENT/POPULATION RATIO	.42	.40			
EARNINGS PER WORKER (1967$)	4,666	5,413			
EARNINGS PER WORKER RELATIVE (US=1.00)	1.04	1.01			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	11,751,868	16,443,928	18,900,616	27,331,754	28,629,435
TOTAL EARNINGS	9,696,766	13,712,671	15,724,283	22,860,823	24,001,627
AGRICULTURE, FORESTRY & FISHERIES	383,998	263,074	296,809	279,407	350,508
AGRICULTURE	346,661	232,077	267,767	249,232	321,161
FORESTRY & FISHERIES	37,331	30,998	29,046	30,174	29,341
MINING	13,075	18,012	19,872	18,234	18,601
METAL	107	163	324	593	1,038
COAL	645	0	23	180	175
CRUDE PETROLEUM & NATURAL GAS	32	596	627	827	816
NONMETALLIC, EXCEPT FUELS	12,291	17,253	18,898	16,634	16,575
CONTRACT CONSTRUCTION	665,219	877,944	1,017,385	1,318,853	1,448,992
MANUFACTURING	1,810,758	2,727,681	3,059,578	3,978,393	4,058,645
FOOD & KINDRED PRODUCTS	255,428	323,432	346,494	412,300	424,657
TEXTILE MILL PRODUCTS	51,915	37,697	24,384	26,893	26,694
APPAREL & OTHER FABRIC PRODUCTS	114,736	119,922	132,048	158,111	160,274
LUMBER PRODUCTS & FURNITURE	83,653	90,743	88,516	113,818	117,308
PAPER & ALLIED PRODUCTS	54,548	89,724	96,315	118,415	126,417
PRINTING & PUBLISHING	145,705	206,489	235,594	329,742	347,819
CHEMICALS & ALLIED PRODUCTS	293,137	441,249	582,850	755,986	786,597
PETROLEUM REFINING	15,341	19,516	18,352	26,240	24,384
PRIMARY METALS	178,279	328,406	363,650	449,261	467,745
FABRICATED METALS & ORDNANCE	96,843	178,493	294,738	292,096	260,514
MACHINERY, EXCLUDING ELECTRICAL		94,462	110,084	156,359	167,599
ELECTRICAL MACHINERY & SUPPLIES		102,158	113,313	188,993	176,197
TOTAL MACHINERY (1950 ONLY)	104,922				
MOTOR VEHICLES & EQUIPMENT	58,129	84,687	91,748	206,596	185,939
TRANS. EQUIP., EXCL. MTR. VEHS.	158,537	340,889	271,932	346,753	375,829
OTHER MANUFACTURING	199,588	269,826	289,566	396,837	410,979
TRANS., COMM. & PUBLIC UTILITIES	773,125	1,026,723	1,079,982	1,416,690	1,473,401
RAILROAD TRANSPORTATION	255,800	233,432	220,919	205,851	206,079
TRUCKING & WAREHOUSING	81,583	154,499	178,883	269,408	279,253
OTHER TRANSPORTATION & SERVICES	197,552	275,234	277,544	356,515	366,628
COMMUNICATIONS	126,863	204,922	233,170	366,003	392,050
UTILITIES (ELEC., GAS, SANITARY)	111,333	158,639	169,468	218,909	229,391
WHOLESALE & RETAIL TRADE	1,646,366	2,133,386	2,378,169	3,344,189	3,502,579
FINANCE, INSURANCE & REAL ESTATE	392,061	640,864	715,805	1,054,675	1,099,916
SERVICES	1,151,955	1,755,629	2,220,917	3,515,970	3,761,778
LODGING PLACES & PERSONAL SERV.	185,184	239,746	262,643	385,489	390,932
BUSINESS & REPAIR SERVICES	100,675	284,620	390,837	787,064	880,106
AMUSEMENT & RECREATION SERVICES	58,889	77,839	88,476	118,696	115,267
PRIVATE HOUSEHOLDS	260,664	253,148	260,869	235,549	228,064
PROFESSIONAL SERVICES	546,546	900,274	1,218,092	1,989,177	2,147,404
GOVERNMENT	2,860,202	4,269,363	4,935,766	7,934,413	8,287,203
CIVILIAN GOVERNMENT	2,107,578	3,187,468	3,881,261	6,154,925	6,476,468
FEDERAL GOVERNMENT	1,699,379	2,368,124	2,828,095	4,229,485	4,374,220
STATE & LOCAL GOVERNMENT	408,197	819,338	1,053,162	1,925,446	2,102,241
ARMED FORCES	752,622	1,081,896	1,054,503	1,779,484	1,810,740

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING

TABLE 3-36
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR THE TOTAL CHESAPEAKE BAY ESTUARY AREA, 1980-2020, SERIES C

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	9,273,063	10,850,097	12,489,474	14,332,644	16,320,028
PER CAPITA INCOME (1967$)	5,182	6,691	8,913	11,601	15,030
PER CAPITA INCOME RELATIVE (US=1.00)	1.09	1.08	1.08	1.06	1.05
TOTAL EMPLOYMENT	3,904,334	4,478,843	5,232,966	6,013,338	6,825,152
EMPLOYMENT/POPULATION RATIO	.42	.41	.42	.42	.42
EARNINGS PER WORKER (1967$)	9,892	12,849	16,667	21,447	27,647
EARNINGS PER WORKER RELATIVE(US=1.00)	1.05	1.06	1.05	1.05	1.04
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	48,057,596	72,592,613	111,323,402	166,271,921	245,284,632
TOTAL EARNINGS	38,619,753	57,550,759	87,218,303	128,969,489	188,695,545
AGRICULTURE, FORESTRY & FISHERIES	336,408	372,461	452,211	593,345	793,318
AGRICULTURE	281,581	298,472	351,327	456,951	612,964
FORESTRY & FISHERIES	54,827	73,990	100,884	136,394	180,354
MINING	27,532	37,018	51,592	71,102	99,342
METAL	1,316	1,708	2,278	3,001	3,963
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	992	1,230	1,494	1,763	2,080
NONMETALLIC, EXCEPT FUELS	24,966	33,807	47,477	65,942	92,847
CONTRACT CONSTRUCTION	2,256,482	3,367,189	5,104,578	7,546,855	10,996,475
MANUFACTURING	6,048,310	8,483,918	12,252,332	17,466,566	24,982,203
FOOD & KINDRED PRODUCTS	573,046	740,306	980,913	1,283,506	1,693,778
TEXTILE MILL PRODUCTS	35,032	42,187	53,021	67,043	86,658
APPAREL & OTHER FABRIC PRODUCTS	229,651	303,257	412,862	557,467	760,537
LUMBER PRODUCTS & FURNITURE	164,363	215,408	290,851	389,141	527,696
PAPER & ALLIED PRODUCTS	200,267	294,703	445,289	661,263	980,758
PRINTING & PUBLISHING	531,893	766,409	1,124,638	1,615,076	2,307,699
CHEMICALS & ALLIED PRODUCTS	1,233,946	1,795,399	2,678,099	3,924,036	5,729,781
PETROLEUM REFINING	34,260	44,825	59,526	77,263	101,427
PRIMARY METALS	604,044	758,292	970,489	1,221,479	1,553,535
FABRICATED METALS & ORDNANCE	408,758	592,050	881,045	1,289,764	1,880,845
MACHINERY, EXCLUDING ELECTRICAL	269,171	405,005	623,729	942,214	1,417,944
ELECTRICAL MACHINERY & SUPPLIES	308,655	499,183	818,214	1,302,416	2,056,598
MOTOR VEHICLES & EQUIPMENT	333,527	472,507	688,068	986,266	1,414,899
TRANS. EQUIP., EXCL. MTR. VEHS.	497,868	661,893	911,459	1,244,007	1,707,047
OTHER MANUFACTURING	623,829	892,493	1,314,130	1,905,626	2,763,003
TRANS., COMM. & PUBLIC UTILITIES	2,217,878	3,172,500	4,650,019	6,700,281	9,626,357
RAILROAD TRANSPORTATION	259,638	299,430	347,326	388,270	431,749
TRUCKING & WAREHOUSING	435,862	643,008	968,749	1,434,446	2,107,852
OTHER TRANSPORTATION & SERVICES	567,526	823,982	1,219,073	1,763,984	2,532,690
COMMUNICATIONS	610,828	915,043	1,397,894	2,085,854	3,084,462
UTILITIES (ELEC.,GAS, SANITARY)	344,024	491,036	716,977	1,027,727	1,469,602
WHOLESALE & RETAIL TRADE	5,871,917	8,907,423	13,760,330	20,680,505	30,712,514
FINANCE, INSURANCE & REAL ESTATE	1,797,708	2,691,722	4,097,262	6,079,858	8,927,108
SERVICES	6,827,583	11,105,701	18,157,733	28,653,075	44,283,206
LODGING PLACES & PERSONAL SERV.	643,727	948,595	1,428,849	2,109,229	3,094,806
BUSINESS & REPAIR SERVICES	1,561,659	2,581,547	4,278,289	6,825,268	10,648,196
AMUSEMENT & RECREATION SERVICES	194,646	286,578	428,991	625,523	901,300
PRIVATE HOUSEHOLDS	304,496	364,648	440,610	518,663	612,633
PROFESSIONAL SERVICES	4,123,055	6,924,333	11,580,994	18,574,392	29,026,271
GOVERNMENT	13,235,934	19,412,827	28,692,245	41,177,901	58,275,023
CIVILIAN GOVERNMENT	11,016,674	16,535,721	24,956,568	36,346,448	52,001,155
FEDERAL GOVERNMENT	6,836,816	9,512,599	13,284,170	17,827,627	23,237,606
STATE & LOCAL GOVERNMENT	4,179,858	7,023,122	11,672,398	18,518,821	28,763,549
ARMED FORCES	2,219,260	2,877,107	3,735,677	4,831,453	6,273,868

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(S) TOO SMALL TO BE PROJECTED

THE PHILADELPHIA ECONOMIC AREA

The Philadelphia, Pennsylvania-New Jersey Economic Area (15) comprises seven SMSA subsegments and one non-SMSA non-Estuary subsegment. Only one of the SMSA subsegments - Wilmington, Delaware-New Jersey-Maryland - is in the Estuary Area. The county compositions of the eight Philadelphia subsegments are shown in Table 3-37 as well as in Figure 3-22. Economic and demographic projections for the economic area as a whole and for its eight subsegments, together with the historical data upon which the projections are based, are presented in Tables 3-38 to 3-55.

THE HARRISBURG ECONOMIC AREA

The Harrisburg, Pennsylvania Economic Area (16) consists of four SMSA subsegments and one non-SMSA non-Estuary subsegment. Although none of the subsegments is in the Estuary Area, Harrisburg is still of interest to Chesapeake Bay planners because many of its residents recreate in the Estuary Area. The county compositions of the five Harrisburg subsegments are shown in Table 3-56 as well as in Figure 3-23. Economic and demographic projections for the economic area as a whole and for its five subsegments, together with the historical data upon which the projections are based, are presented in Tables 3-57 to 3-68. In addition to permit reconcilitation with State planning regions, projections of population and total personel income for Franklin and Lebanon Counties are shown in Table 3-68.

THE BALTIMORE ECONOMIC AREA

The Baltimore, Maryland Economic Area (17) consists of one SMSA Estuary subsegment, three non-SMSA Estuary subsegments, and one non-SMSA non-Estuary subsegment. The county compositions of the five Baltimore subsegments are shown in Table 3-69 as well as in Figure 3-24. Economic and demographic projections for the economic area as a whole and for its five subsegments, together with the historical data upon which the projections are based, are presented in Tables 3-70 to 3-81.

TABLE 3-37
SUB-SEGMENT AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 15 - PHILADELPHIA, PA.-N.J.

15-1 Allentown-Bethlehem-Easton, Pa.-N.J. SMSA
- Warren, New Jersey
- Lehigh, Pennsylvania
- Northampton, Pennsylvania

15-2 Atlantic City, N.J. SMSA
- Atlantic, New Jersey

15-3 Philadelphia, Pa.-N.J. SMSA
- Burlington, New Jersey
- Camden, New Jersey
- Gloucester, New Jersey
- Bucks, Pennsylvania
- Chester, Pennsylvania
- Delaware, Pennsylvania
- Montgomery, Pennsylvania
- Philadelphia, Pennsylvania

15-4 Reading, Pa. SMSA
- Berks, Pennsylvania

15-5 Trenton, N.J. SMSA
- Mercer, New Jersey

15-6 Vineland-Millville-Bridgeton, N.J. SMSA
- Cumberland, New Jersey

15-7 Wilmington, Del.-N.J.-Md. SMSA*
- Salem, New Jersey
- New Castle, Delaware
- Cecil, Maryland

15-8 Residual Non-SMSA Area
- Cape May, New Jersey
- Ocean, New Jersey
- Carbon, Pennsylvania
- Monroe, Pennsylvania
- Schuylkill, Pennsylvania

*Included in Estuary Area as defined.

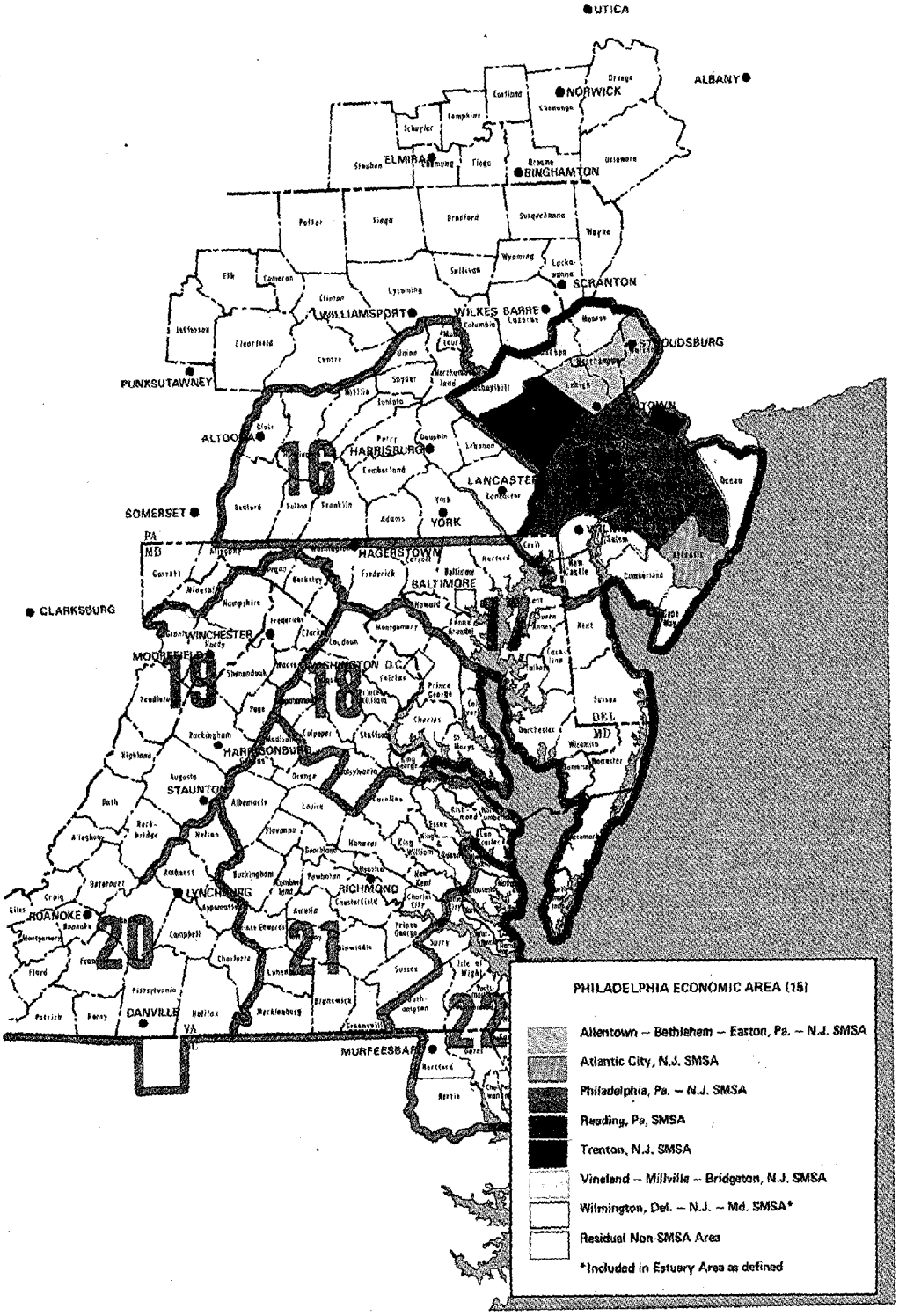
UTICA
ALBANY
NORWICK
ELMIRA
BINGHAMTON
SCRANTON
WILLIAMSPORT
WILKES BARRE
PUNXSUTAWNEY
ALTOONA
HARRISBURG
LANCASTER
YORK
SOMERSET
HAGERSTOWN
BALTIMORE
CLARKSBURG
WINCHESTER
WASHINGTON D.C.
HARRISONBURG
STAUNTON
LYNCHBURG
RICHMOND
ROANOKE
DANVILLE
MURFEESBORO
16
17
18
19
20
21
22
PHILADELPHIA ECONOMIC AREA (15)
Allentown – Bethlehem – Easton, Pa. – N.J. SMSA
Atlantic City, N.J. SMSA
Philadelphia, Pa. – N.J. SMSA
Reading, Pa. SMSA
Trenton, N.J. SMSA
Vineland – Millville – Bridgeton, N.J. SMSA
Wilmington, Del. – N.J. – Md. SMSA*
Residual Non-SMSA Area
*Included in Estuary Area as defined

FIGURE 3-22

TABLE 3-38
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15
PHILADELPHIA, PA.-N.J.

ECONOMIC AREA 15
PHILADELPHIA, PENNSYLVANIA-NEW JERSEY

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	5,517,385	6,429,505	6,667,759	7,158,450	7,210,689
PER CAPITA INCOME (1967$)	2,354	2,747	2,876	3,545	3,660
PER CAPITA INCOME RELATIVE (US=1.00)	1.14	1.13	1.11	1.07	1.07
TOTAL EMPLOYMENT	2,207,384	2,523,123			
EMPLOYMENT/POPULATION RATIO	.40	.39			
EARNINGS PER WORKER (1967$)	4,770	5,720			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.06	1.07			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	12,987,413	17,661,362	19,173,687	25,376,263	26,392,566
TOTAL EARNINGS	10,528,668	14,431,104	15,577,357	20,504,189	21,253,051
AGRICULTURE, FORESTRY & FISHERIES	274,516	214,483	208,251	176,623	190,021
AGRICULTURE	264,163	208,970	202,639	173,071	186,538
FORESTRY & FISHERIES	10,354	5,513	5,614	3,550	3,483
MINING	96,077	58,978	50,760	53,516	53,638
METAL	383	5,393	8,553	9,857	9,451
COAL	81,299	27,887	21,141	20,343	20,841
CRUDE PETROLEUM & NATURAL GAS	46	302	1,734	1,862	1,885
NONMETALLIC, EXCEPT FUELS	14,350	25,394	19,334	21,454	21,463
CONTRACT CONSTRUCTION	685,687	888,517	875,749	1,227,579	1,313,325
MANUFACTURING	4,109,538	5,475,011	5,988,414	7,465,774	7,666,842
FOOD & KINDRED PRODUCTS	318,915	432,437	472,403	509,949	519,198
TEXTILE MILL PRODUCTS	474,270	283,949	270,656	274,418	275,637
APPAREL & OTHER FABRIC PRODUCTS	368,455	418,392	432,764	518,866	529,284
LUMBER PRODUCTS & FURNITURE	66,764	90,486	83,870	108,208	112,135
PAPER & ALLIED PRODUCTS	137,877	186,490	202,375	243,772	253,856
PRINTING & PUBLISHING	201,203	304,371	323,351	403,917	399,601
CHEMICALS & ALLIED PRODUCTS	358,801	608,459	731,399	951,386	988,787
PETROLEUM REFINING	169,613	210,225	190,785	238,353	248,641
PRIMARY METALS	400,179	526,152	570,020	719,504	712,238
FABRICATED METALS & ORDNANCE	321,639	434,929	434,958	533,856	567,362
MACHINERY, EXCLUDING ELECTRICAL		450,594	518,946	706,841	770,070
ELECTRICAL MACHINERY & SUPPLIES		580,528	763,357	902,315	890,719
TOTAL MACHINERY (1950 ONLY)	607,804				
MOTOR VEHICLES & EQUIPMENT	88,671	153,811	140,227	257,421	256,366
TRANS. EQUIP., EXCL. MTR. VEHS.	110,641	143,780	176,624	263,727	266,950
OTHER MANUFACTURING	484,700	650,412	676,682	833,239	875,994
TRANS., COMM. & PUBLIC UTILITIES	845,983	1,048,644	1,087,120	1,318,098	1,335,740
RAILROAD TRANSPORTATION	281,934	250,092	222,609	209,728	209,876
TRUCKING & WAREHOUSING	131,435	222,639	233,222	357,248	362,555
OTHER TRANSPORTATION & SERVICES	191,393	184,542	192,717	226,964	197,834
COMMUNICATIONS	110,373	208,801	213,736	251,551	277,455
UTILITIES (ELEC., GAS, SANITARY)	130,844	182,565	224,838	272,610	288,019
WHOLESALE & RETAIL TRADE	1,943,888	2,489,445	2,536,528	3,226,510	3,342,433
FINANCE, INSURANCE & REAL ESTATE	459,207	716,459	776,829	1,056,659	1,072,550
SERVICES	1,214,837	1,839,206	2,105,202	3,030,613	3,205,950
LODGING PLACES & PERSONAL SERV.	213,434	251,791	256,825	335,671	330,566
BUSINESS & REPAIR SERVICES	149,764	260,392	345,272	526,801	581,640
AMUSEMENT & RECREATION SERVICES	72,439	89,558	91,746	104,972	100,725
PRIVATE HOUSEHOLDS	239,652	215,911	206,694	161,761	156,616
PROFESSIONAL SERVICES	539,550	1,021,553	1,204,671	1,901,407	2,036,404
GOVERNMENT	898,935	1,700,363	1,948,498	2,948,821	3,072,543
CIVILIAN GOVERNMENT	712,347	1,363,146	1,621,303	2,446,148	2,586,607
FEDERAL GOVERNMENT	320,610	547,783	638,790	892,519	904,704
STATE & LOCAL GOVERNMENT	391,741	815,365	982,518	1,553,632	1,681,902
ARMED FORCES	186,586	337,217	327,192	502,671	485,929

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING

TABLE 3-39
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15
PHILADELPHIA, PA.-N.J., 1980-2020, SERIES C

ECONOMIC AREA 15
PHILADELPHIA, PENNSYLVANIA-NEW JERSEY

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES,
SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	8,334,376	9,426,350	10,516,950	11,704,808	12,983,758
PER CAPITA INCOME (1967$)	5,070	6,539	8,746	11,466	15,002
PER CAPITA INCOME RELATIVE (US=1.00)	1.06	1.06	1.06	1.05	1.05
TOTAL EMPLOYMENT	3,359,230	3,764,619	4,295,392	4,815,686	5,347,618
EMPLOYMENT/POPULATION RATIO	.40	.40	.41	.41	.41
EARNINGS PER WORKER (1967$)	9,921	12,787	16,577	21,412	27,806
EARNINGS PER WORKER RELATIVE(US=1.00)	1.06	1.05	1.05	1.05	1.05
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	42,256,469	61,642,525	91,980,028	134,211,317	194,780,300
TOTAL EARNINGS	33,326,459	48,139,678	71,204,590	103,112,259	148,697,181
AGRICULTURE, FORESTRY & FISHERIES	180,918	187,181	220,852	286,944	383,919
AGRICULTURE	176,005	181,077	213,143	277,225	371,877
FORESTRY & FISHERIES	4,913	6,104	7,709	9,719	12,043
MINING	73,745	89,757	113,512	143,410	183,728
METAL	12,027	16,036	21,688	29,061	38,893
COAL	27,847	29,945	33,207	36,614	40,292
CRUDE PETROLEUM & NATURAL GAS	2,486	3,030	3,690	4,422	5,234
NONMETALLIC, EXCEPT FUELS	31,385	40,746	54,927	73,313	99,309
CONTRACT CONSTRUCTION	1,978,879	2,855,274	4,214,860	6,089,233	8,731,984
MANUFACTURING	11,066,029	15,060,701	21,170,574	29,444,075	41,167,982
FOOD & KINDRED PRODUCTS	672,199	812,929	1,008,018	1,233,625	1,530,027
TEXTILE MILL PRODUCTS	308,059	334,821	380,141	432,830	504,478
APPAREL & OTHER FABRIC PRODUCTS	718,255	900,176	1,163,567	1,493,548	1,939,402
LUMBER PRODUCTS & FURNITURE	147,573	186,065	242,514	314,822	414,426
PAPER & ALLIED PRODUCTS	387,836	549,902	803,563	1,158,524	1,672,087
PRINTING & PUBLISHING	604,959	826,261	1,169,173	1,639,081	2,310,983
CHEMICALS & ALLIED PRODUCTS	1,553,994	2,254,606	3,353,599	4,897,260	7,125,493
PETROLEUM REFINING	311,951	381,428	479,670	596,876	758,063
PRIMARY METALS	887,909	1,084,669	1,353,937	1,665,602	2,075,090
FABRICATED METALS & ORDNANCE	902,356	1,301,101	1,924,100	2,794,690	4,039,830
MACHINERY, EXCLUDING ELECTRICAL	1,131,698	1,588,106	2,294,596	3,268,611	4,653,220
ELECTRICAL MACHINERY & SUPPLIES	1,391,982	2,013,224	2,971,709	4,287,580	6,174,931
MOTOR VEHICLES & EQUIPMENT	453,341	640,418	929,754	1,330,259	1,905,295
TRANS. EQUIP., EXCL. MTR. VEHS.	318,271	436,339	617,153	862,768	1,209,343
OTHER MANUFACTURING	1,275,646	1,750,654	2,479,079	3,468,000	4,854,915
TRANS., COMM. & PUBLIC UTILITIES	1,945,353	2,683,551	3,815,075	5,350,427	7,531,070
RAILROAD TRANSPORTATION	258,963	287,375	320,303	345,396	371,137
TRUCKING & WAREHOUSING	552,733	778,565	1,126,237	1,601,141	2,274,161
OTHER TRANSPORTATION & SERVICES	302,769	443,158	662,812	969,876	1,412,610
COMMUNICATIONS	420,797	619,530	930,116	1,363,942	1,986,971
UTILITIES (ELEC., GAS, SANITARY)	410,091	554,924	775,607	1,070,073	1,486,190
WHOLESALE & RETAIL TRADE	5,415,185	7,889,457	11,788,070	17,206,188	24,991,871
FINANCE, INSURANCE & REAL ESTATE	1,683,048	2,411,750	3,538,299	5,083,917	7,282,308
SERVICES	5,621,035	8,684,702	13,524,043	20,338,458	30,098,223
LODGING PLACES & PERSONAL SERV.	540,080	769,513	1,123,437	1,607,007	2,290,886
BUSINESS & REPAIR SERVICES	1,001,592	1,559,022	2,442,204	3,689,891	5,480,945
AMUSEMENT & RECREATION SERVICES	164,803	235,902	344,549	492,791	701,790
PRIVATE HOUSEHOLDS	207,517	245,587	294,475	344,600	408,864
PROFESSIONAL SERVICES	3,707,044	5,874,678	9,319,378	14,204,170	21,215,738
GOVERNMENT	5,362,268	8,277,304	12,819,304	19,169,608	28,326,496
CIVILIAN GOVERNMENT	4,764,164	7,501,298	11,811,055	17,864,903	26,631,574
FEDERAL GOVERNMENT	1,468,854	2,061,244	2,887,611	3,866,419	5,023,199
STATE & LOCAL GOVERNMENT	3,295,310	5,440,054	8,923,445	13,998,484	21,608,375
ARMED FORCES	598,103	776,006	1,008,249	1,304,705	1,694,922

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING

TABLE 3-40
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15-1, ALLENTOWN-BETHLEHEM-EASTON, PA.-N.J. SMSA, 1950-1969

15-1 ALLENTOWN-BETHLEHEM-EASTON, PENNSYLVANIA-NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	438,565	488,393	493,681	535,241	538,436
PER CAPITA INCOME (1967$)	2,302	2,539	2,766	3,393	3,508
PER CAPITA INCOME RELATIVE (US=1.00)	1.12	1.04	1.07	1.02	1.02
TOTAL EMPLOYMENT	182,040	197,603			
EMPLOYMENT/POPULATION RATIO	.42	.40			
EARNINGS PER WORKER (1967$)	4,706	5,301			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.05	.99			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,009,377	1,240,197	1,365,682	1,816,156	1,888,764
TOTAL EARNINGS	856,745	1,047,423	1,144,289	1,521,540	1,578,489
AGRICULTURE, FORESTRY & FISHERIES	26,623	20,954	16,114	15,659	19,058
AGRICULTURE	26,403	20,795	15,898	15,609	19,003
FORESTRY & FISHERIES	221	159	216	52	55
MINING	5,346	4,298	3,906	4,726	5,070
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	3,969	2,546	2,036	3,282	3,250
CONTRACT CONSTRUCTION	41,626	54,356	51,906	81,499	81,397
MANUFACTURING	462,425	532,601	599,586	776,931	805,437
FOOD & KINDRED PRODUCTS	17,263	30,847	36,754	44,846	44,868
TEXTILE MILL PRODUCTS	64,669	31,656	35,125	37,336	35,787
APPAREL & OTHER FABRIC PRODUCTS	46,687	59,457	70,932	91,769	94,935
LUMBER PRODUCTS & FURNITURE	4,569	3,779	4,325	6,077	5,653
PAPER & ALLIED PRODUCTS	14,263	31,744	18,919	21,055	22,351
PRINTING & PUBLISHING	10,944	15,598	18,417	25,781	25,826
CHEMICALS & ALLIED PRODUCTS	11,509	16,713	18,131	23,648	23,992
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		47,746	57,769	74,810	81,745
ELECTRICAL MACHINERY & SUPPLIES		38,026	54,991	61,644	65,822
TOTAL MACHINERY (1950 ONLY)	52,716				
MOTOR VEHICLES & EQUIPMENT	25,715	36,290	31,075	37,109	44,383
TRANS. EQUIP., EXCL. MTR. VEHS.	0	0	292	10,804	13,735
OTHER MANUFACTURING	46,920	52,973	56,197	64,979	64,211
TRANS., COMM. & PUBLIC UTILITIES	74,052	71,214	77,867	103,031	108,892
RAILROAD TRANSPORTATION	31,467	23,247	20,580	25,712	26,384
TRUCKING & WAREHOUSING	10,144	18,903	17,773	29,855	32,201
OTHER TRANSPORTATION & SERVICES	5,210	3,968	5,062	7,230	7,785
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC., GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	132,950	163,613	165,549	206,195	210,753
FINANCE, INSURANCE & REAL ESTATE	16,208	32,247	34,586	47,608	47,699
SERVICES	64,740	102,565	118,428	174,889	182,805
LODGING PLACES & PERSONAL SERV.	12,734	13,697	15,091	20,273	20,242
BUSINESS & REPAIR SERVICES	5,733	14,438	17,086	28,323	30,540
AMUSEMENT & RECREATION SERVICES	4,289	4,018	4,286	4,853	4,492
PRIVATE HOUSEHOLDS	8,519	9,122	9,014	5,798	5,614
PROFESSIONAL SERVICES	33,466	61,290	72,956	115,643	121,915
GOVERNMENT	32,775	65,574	76,346	110,999	117,378
CIVILIAN GOVERNMENT	30,389	61,235	72,047	105,803	111,873
FEDERAL GOVERNMENT	5,575	9,375	10,287	14,030	14,260
STATE & LOCAL GOVERNMENT	24,815	51,860	61,763	91,774	97,612
ARMED FORCES	2,385	4,339	4,299	5,196	5,505

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-41
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-1, ALLENTOWN-BETHLEHEM-EASTON, PA.-N.J. SMSA, 1980-2020, SERIES C

15-1 ALLENTOWN-BETHLEHEM-EASTON, PENNSYLVANIA-NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	593,371	656,901	719,345	788,326	863,985
PER CAPITA INCOME (1967$)	5,002	6,459	8,647	11,343	14,846
PER CAPITA INCOME RELATIVE (US=1.00)	1.05	1.05	1.04	1.04	1.04
TOTAL EMPLOYMENT	253,168	278,314	312,128	344,501	377,196
EMPLOYMENT/POPULATION RATIO	.43	.42	.43	.44	.44
EARNINGS PER WORKER (1967$)	9,419	12,109	15,680	20,271	26,402
EARNINGS PER WORKER RELATIVE(US=1.00)	1.00	1.00	.99	.99	.99
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	2,968,223	4,243,008	6,220,083	8,942,264	12,826,741
TOTAL EARNINGS	2,384,674	3,370,186	4,894,233	6,983,460	9,958,745
AGRICULTURE, FORESTRY & FISHERIES	13,921	14,177	16,698	21,713	29,109
AGRICULTURE	13,843	14,081	16,576	21,560	28,920
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	6,475	8,447	11,387	15,210	20,538
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	4,789	6,219	8,383	11,189	15,157
CONTRACT CONSTRUCTION	133,728	194,871	290,189	422,400	609,609
MANUFACTURING	1,108,978	1,473,680	2,016,648	2,728,208	3,713,830
FOOD & KINDRED PRODUCTS	68,164	89,325	117,965	151,495	194,582
TEXTILE MILL PRODUCTS	43,292	48,567	56,698	66,175	78,858
APPAREL & OTHER FABRIC PRODUCTS	136,848	178,115	236,631	309,307	405,519
LUMBER PRODUCTS & FURNITURE	6,790	8,007	9,825	12,079	15,132
PAPER & ALLIED PRODUCTS	33,576	47,572	69,468	100,106	144,453
PRINTING & PUBLISHING	42,589	61,628	91,342	132,751	192,218
CHEMICALS & ALLIED PRODUCTS	38,468	55,567	82,340	119,873	173,923
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	124,148	175,793	255,946	367,041	525,698
ELECTRICAL MACHINERY & SUPPLIES	84,890	115,667	160,360	216,588	290,739
MOTOR VEHICLES & EQUIPMENT	69,847	98,669	143,247	204,954	293,553
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	86,643	109,373	143,618	187,647	247,105
TRANS., COMM. & PUBLIC UTILITIES	145,566	192,416	263,941	359,656	495,211
RAILROAD TRANSPORTATION	30,236	32,463	35,141	36,980	38,998
TRUCKING & WAREHOUSING	45,967	64,633	93,346	132,535	188,067
OTHER TRANSPORTATION & SERVICES	10,338	15,681	24,146	36,166	53,615
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC., GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	344,048	499,025	742,300	1,078,711	1,560,271
FINANCE, INSURANCE & REAL ESTATE	85,485	131,293	204,702	310,343	466,155
SERVICES	325,577	503,954	785,156	1,179,957	1,743,355
LODGING PLACES & PERSONAL SERV.	33,606	48,472	71,492	103,106	147,930
BUSINESS & REPAIR SERVICES	55,901	89,711	144,138	222,276	335,517
AMUSEMENT & RECREATION SERVICES	6,755	8,896	12,067	16,142	21,040
PRIVATE HOUSEHOLDS	8,965	10,988	13,597	16,375	19,960
PROFESSIONAL SERVICES	220,351	345,887	543,862	822,058	1,218,309
GOVERNMENT	220,894	352,323	563,212	867,261	1,329,667
CIVILIAN GOVERNMENT	214,625	344,185	552,636	853,571	1,302,879
FEDERAL GOVERNMENT	18,367	21,175	24,189	26,437	28,460
STATE & LOCAL GOVERNMENT	196,258	323,011	528,446	827,134	1,274,419
ARMED FORCES	6,270	8,138	10,577	13,690	17,788

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-42
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15-2, ATLANTIC CITY, N.J. SMSA, 1950-1969

15-2 ATLANTIC CITY, NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	133,403	159,507	165,522	173,753	174,603
PER CAPITA INCOME (1967$)	1,972	2,171	2,415	3,103	3,195
PER CAPITA INCOME RELATIVE (US=1.00)	.96	.89	.93	.93	.93
TOTAL EMPLOYMENT	52,104	60,312			
EMPLOYMENT/POPULATION RATIO	.39	.38			
EARNINGS PER WORKER (1967$)	4,178	4,472			
EARNINGS PER WORKER RELATIVE(US=1.00)	.93	.83			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	263,111	346,286	399,703	539,158	557,810
TOTAL EARNINGS	217,702	269,723	309,210	402,751	414,770
AGRICULTURE, FORESTRY & FISHERIES	12,153	11,839	11,899	9,557	8,949
AGRICULTURE	11,160	10,986	10,887	8,970	8,345
FORESTRY & FISHERIES	994	853	1,012	586	604
MINING	72	38	224	78	69
CRUDE PETROLEUM & NATURAL GAS	0	0	0	0	12
NONMETALLIC, EXCEPT FUELS	72	38	224	78	57
CONTRACT CONSTRUCTION	16,445	20,938	23,989	32,329	34,536
MANUFACTURING	28,367	36,844	45,223	65,101	68,325
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	17,288	16,373	15,277	22,401	22,397
LUMBER PRODUCTS & FURNITURE	838	1,263	1,679	1,631	1,692
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	0	0	28	5	5
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		693	848	1,484	1,299
TOTAL MACHINERY (1950 ONLY)	813				
MOTOR VEHICLES & EQUIPMENT	0	0	0	235	282
TRANS. EQUIP., EXCL. MTR. VEHS.	207	751	1,529	2,671	3,515
OTHER MANUFACTURING	694	6,588	11,163	18,839	20,416
TRANS., COMM. & PUBLIC UTILITIES	16,429	25,014	26,641	27,953	29,929
RAILROAD TRANSPORTATION	2,136	3,257	3,139	2,086	1,928
TRUCKING & WAREHOUSING	2,073	2,805	3,135	4,220	4,533
OTHER TRANSPORTATION & SERVICES	3,340	3,679	4,036	3,212	2,841
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC., GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	52,559	60,591	71,889	88,440	89,809
FINANCE, INSURANCE & REAL ESTATE	11,557	19,096	21,893	25,180	25,102
SERVICES	55,165	57,935	62,683	85,036	85,102
LODGING PLACES & PERSONAL SERV.	31,102	27,845	27,669	29,589	28,383
BUSINESS & REPAIR SERVICES	2,318	4,735	4,555	9,093	8,929
AMUSEMENT & RECREATION SERVICES	5,938	6,529	7,575	8,983	8,278
PRIVATE HOUSEHOLDS	5,164	3,213	3,321	2,881	2,789
PROFESSIONAL SERVICES	10,642	15,614	19,564	34,490	36,723
GOVERNMENT	24,954	37,428	44,769	69,078	72,948
CIVILIAN GOVERNMENT	18,604	35,199	42,608	66,692	70,639
FEDERAL GOVERNMENT	4,597	12,350	17,267	24,860	26,614
STATE & LOCAL GOVERNMENT	14,007	22,848	25,346	41,832	44,025
ARMED FORCES	6,351	2,229	2,160	2,386	2,308

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-43
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-2, ATLANTIC CITY, N.J. SMSA, 1980-2020, SERIES C

15-2 ATLANTIC CITY, NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	206,262	226,715	246,751	269,004	293,717
PER CAPITA INCOME (1967$)	4,117	5,429	7,406	9,857	13,060
PER CAPITA INCOME RELATIVE (US=1.00)	.86	.88	.89	.90	.92
TOTAL EMPLOYMENT	77,509	85,650	96,565	107,180	118,186
EMPLOYMENT/POPULATION RATIO	.38	.38	.39	.40	.40
EARNINGS PER WORKER (1967$)	8,399	10,970	14,366	18,681	24,327
EARNINGS PER WORKER RELATIVE(US=1.00)	.89	.90	.91	.91	.92
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	849,217	1,230,821	1,825,866	2,651,532	3,835,980
TOTAL EARNINGS	650,998	939,608	1,387,266	2,002,274	2,875,117
AGRICULTURE, FORESTRY & FISHERIES	8,951	9,357	11,099	14,383	19,130
AGRICULTURE	8,147	8,360	9,840	12,798	17,167
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(S)	(S)	(S)	(S)	(S)
CONTRACT CONSTRUCTION	48,071	65,089	90,772	125,008	172,673
MANUFACTURING	104,584	147,890	214,354	305,358	433,726
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	28,532	34,867	43,953	55,031	69,734
LUMBER PRODUCTS & FURNITURE	2,731	3,751	5,276	7,337	10,284
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(S)	(S)	(S)	(S)	(S)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	2,285	3,304	4,881	7,052	10,181
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	7,178	11,093	17,187	25,728	37,877
OTHER MANUFACTURING	38,593	61,327	96,707	146,448	217,002
TRANS., COMM. & PUBLIC UTILITIES	41,492	56,277	78,581	108,154	149,520
RAILROAD TRANSPORTATION	3,182	3,967	4,836	5,581	6,304
TRUCKING & WAREHOUSING	6,185	8,416	11,807	16,355	22,773
OTHER TRANSPORTATION & SERVICES	3,902	5,342	7,518	10,435	14,590
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	148,631	216,868	324,221	473,101	686,619
FINANCE, INSURANCE & REAL ESTATE	38,260	54,283	78,868	112,292	159,415
SERVICES	136,854	199,576	296,712	430,031	618,105
LODGING PLACES & PERSONAL SERV.	41,863	54,967	74,477	99,834	135,078
BUSINESS & REPAIR SERVICES	15,496	23,905	37,154	55,762	82,393
AMUSEMENT & RECREATION SERVICES	14,247	20,630	30,417	43,841	62,812
PRIVATE HOUSEHOLDS	2,872	3,111	3,448	3,756	4,177
PROFESSIONAL SERVICES	62,376	96,963	151,216	226,838	333,645
GOVERNMENT	124,040	190,120	292,460	433,680	635,567
CIVILIAN GOVERNMENT	121,811	187,226	288,700	428,814	629,244
FEDERAL GOVERNMENT	36,487	49,617	67,631	88,534	113,042
STATE & LOCAL GOVERNMENT	85,324	137,609	221,069	340,279	516,201
ARMED FORCES	2,230	2,893	3,759	4,867	6,323

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-44
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15-3, PHILADELPHIA, PA.-N.J. SMSA, 1950-1969

15-3 PHILADELPHIA, PENNSYLVANIA-NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	3,677,748	4,309,397	4,455,389	4,736,520	4,769,714
PER CAPITA INCOME (1967$)	2,387	2,817	2,941	3,634	3,754
PER CAPITA INCOME RELATIVE (US=1.00)	1.16	1.15	1.14	1.09	1.09
TOTAL EMPLOYMENT	1,466,901	1,689,766			
EMPLOYMENT/POPULATION RATIO	.40	.39			
EARNINGS PER WORKER (1967$)	4,867	5,906			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.08	1.10			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	8,778,661	12,141,360	13,102,566	17,213,823	17,904,093
TOTAL EARNINGS	7,139,061	9,979,932	10,708,252	13,967,700	14,446,719
AGRICULTURE, FORESTRY & FISHERIES	123,833	108,187	108,469	77,644	82,485
AGRICULTURE	122,297	107,174	107,597	77,273	82,120
FORESTRY & FISHERIES	1,535	1,013	871	371	366
MINING	9,299	15,125	11,112	11,646	11,786
METAL	1	11	10	1	
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	6,345	14,239	8,962	9,768	9,600
CONTRACT CONSTRUCTION	489,688	607,176	599,379	831,793	905,564
MANUFACTURING	2,650,456	3,632,256	3,940,442	4,764,283	4,876,834
FOOD & KINDRED PRODUCTS	244,080	315,322	345,516	366,353	375,261
TEXTILE MILL PRODUCTS	288,329	180,010	159,947	155,186	156,455
APPAREL & OTHER FABRIC PRODUCTS	226,022	246,952	251,243	282,919	285,668
LUMBER PRODUCTS & FURNITURE	52,166	73,348	64,058	80,838	82,681
PAPER & ALLIED PRODUCTS	106,579	133,681	162,152	190,172	197,122
PRINTING & PUBLISHING	168,172	256,120	266,287	313,918	308,291
CHEMICALS & ALLIED PRODUCTS	154,453	282,169	321,936	411,520	430,169
PETROLEUM REFINING	166,502	202,201	182,062	221,187	230,889
PRIMARY METALS	160,560	265,970	288,007	349,993	345,943
FABRICATED METALS & ORDNANCE	230,702	308,939	310,921	385,002	405,189
MACHINERY, EXCLUDING ELECTRICAL		339,224	384,205	526,860	573,044
ELECTRICAL MACHINERY & SUPPLIES		449,021	609,449	703,896	684,777
TOTAL MACHINERY (1950 ONLY)	442,477				
MOTOR VEHICLES & EQUIPMENT	28,392	45,148	44,003	90,315	94,102
TRANS. EQUIP., EXCL. MTR. VEHS.	106,857	135,581	166,794	202,085	201,103
OTHER MANUFACTURING	275,161	398,571	383,863	484,036	506,139
TRANS., COMM. & PUBLIC UTILITIES	608,078	748,487	767,769	919,945	916,413
RAILROAD TRANSPORTATION	173,033	157,581	139,653	129,339	128,770
TRUCKING & WAREHOUSING	98,825	157,521	162,182	247,502	246,320
OTHER TRANSPORTATION & SERVICES	168,373	157,885	161,225	184,022	154,669
COMMUNICATIONS	85,651	156,140	159,604	186,057	203,392
UTILITIES (ELEC.,GAS, SANITARY)	82,193	119,358	145,107	173,025	183,261
WHOLESALE & RETAIL TRADE	1,401,585	1,805,830	1,813,994	2,304,723	2,391,174
FINANCE, INSURANCE & REAL ESTATE	367,304	550,380	597,130	815,209	827,853
SERVICES	853,360	1,301,064	1,494,595	2,148,834	2,267,114
LODGING PLACES & PERSONAL SERV.	124,304	158,033	157,973	206,645	202,236
BUSINESS & REPAIR SERVICES	113,895	181,956	261,347	390,416	427,772
AMUSEMENT & RECREATION SERVICES	48,080	61,174	59,053	67,432	65,779
PRIVATE HOUSEHOLDS	182,436	161,921	151,645	118,984	115,202
PROFESSIONAL SERVICES	384,646	737,982	864,579	1,365,356	1,456,126
GOVERNMENT	635,458	1,211,426	1,375,359	2,093,629	2,167,495
CIVILIAN GOVERNMENT	479,632	951,686	1,124,462	1,685,077	1,776,914
FEDERAL GOVERNMENT	267,103	446,055	517,543	714,873	723,337
STATE & LOCAL GOVERNMENT	212,531	505,631	606,921	970,204	1,053,579
ARMED FORCES	155,824	259,740	250,896	408,551	390,578

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-45
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-3, PHILADELPHIA, PA.-N.J. SMSA, 1980-2020, SERIES C

15-3 PHILADELPHIA, PENNSYLVANIA-NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	5,523,231	6,229,587	6,933,868	7,702,150	8,530,974
PER CAPITA INCOME (1967$)	5,156	6,636	8,858	11,593	15,144
PER CAPITA INCOME RELATIVE (US=1.00)	1.08	1.08	1.07	1.06	1.06
TOTAL EMPLOYMENT	2,222,440	2,479,843	2,819,066	3,151,452	3,492,940
EMPLOYMENT/POPULATION RATIO	.40	.40	.41	.41	.41
EARNINGS PER WORKER (1967$)	10,132	13,043	16,878	21,751	28,170
EARNINGS PER WORKER RELATIVE(US=1.00)	1.08	1.07	1.07	1.06	1.06
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	28,478,993	41,337,967	61,418,215	89,291,193	129,196,116
TOTAL EARNINGS	22,517,903	32,344,059	47,579,941	68,548,693	98,396,772
AGRICULTURE, FORESTRY & FISHERIES	82,112	83,643	98,501	128,088	171,730
AGRICULTURE	81,669	83,093	97,807	127,214	170,648
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	16,423	21,034	27,992	36,956	49,464
METAL	(S)	(S)	(S)	(S)	(S)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	14,348	18,626	25,104	33,508	45,392
CONTRACT CONSTRUCTION	1,330,166	1,907,260	2,799,677	4,024,901	5,747,652
MANUFACTURING	7,014,596	9,499,053	13,303,755	18,455,617	25,768,714
FOOD & KINDRED PRODUCTS	470,721	560,097	684,807	828,306	1,017,810
TEXTILE MILL PRODUCTS	167,070	176,364	195,119	217,268	248,614
APPAREL & OTHER FABRIC PRODUCTS	372,759	448,011	556,802	689,684	867,931
LUMBER PRODUCTS & FURNITURE	107,225	132,854	170,523	218,525	284,742
PAPER & ALLIED PRODUCTS	303,758	430,386	628,482	905,659	1,306,867
PRINTING & PUBLISHING	456,088	610,489	848,809	1,172,592	1,634,233
CHEMICALS & ALLIED PRODUCTS	669,338	969,625	1,440,332	2,100,871	3,053,864
PETROLEUM REFINING	283,628	342,331	425,619	524,478	660,792
PRIMARY METALS	432,027	527,394	657,880	808,835	1,007,110
FABRICATED METALS & ORDNANCE	651,122	937,711	1,385,133	2,010,125	2,904,317
MACHINERY, EXCLUDING ELECTRICAL	830,050	1,157,767	1,662,136	2,352,038	3,325,938
ELECTRICAL MACHINERY & SUPPLIES	1,103,431	1,606,739	2,388,238	3,470,458	5,035,357
MOTOR VEHICLES & EQUIPMENT	140,960	199,131	289,096	413,628	592,434
TRANS. EQUIP., EXCL. MTR. VEHS.	289,541	392,744	550,306	763,173	1,062,721
OTHER MANUFACTURING	736,876	1,007,410	1,420,471	1,979,979	2,765,984
TRANS., COMM. & PUBLIC UTILITIES	1,351,690	1,864,444	2,647,424	3,705,972	5,205,112
RAILROAD TRANSPORTATION	162,335	182,014	204,634	222,276	240,292
TRUCKING & WAREHOUSING	381,027	534,676	770,879	1,092,972	1,549,292
OTHER TRANSPORTATION & SERVICES	241,197	348,527	515,552	747,605	1,081,346
COMMUNICATIONS	305,151	443,222	657,053	952,359	1,372,817
UTILITIES (ELEC.,GAS, SANITARY)	261,980	356,005	499,307	690,760	961,365
WHOLESALE & RETAIL TRADE	3,799,846	5,459,099	8,053,399	11,623,027	16,719,959
FINANCE, INSURANCE & REAL ESTATE	1,265,346	1,779,326	2,565,560	3,629,029	5,127,345
SERVICES	3,964,556	6,093,506	9,445,074	14,147,697	20,867,989
LODGING PLACES & PERSONAL SERV.	334,694	475,724	693,123	989,842	1,409,306
BUSINESS & REPAIR SERVICES	737,090	1,138,440	1,771,561	2,661,888	3,936,714
AMUSEMENT & RECREATION SERVICES	106,551	151,887	221,056	315,281	448,127
PRIVATE HOUSEHOLDS	148,067	172,513	203,975	235,772	276,777
PROFESSIONAL SERVICES	2,638,153	4,154,942	6,555,359	9,944,914	14,797,065
GOVERNMENT	3,693,169	5,636,694	8,638,560	12,797,407	18,738,807
CIVILIAN GOVERNMENT	3,208,016	5,006,993	7,820,164	11,738,109	17,362,401
FEDERAL GOVERNMENT	1,175,654	1,651,071	2,314,542	3,100,745	4,030,098
STATE & LOCAL GOVERNMENT	2,032,362	3,355,922	5,505,622	8,637,365	13,332,302
ARMED FORCES	485,152	629,701	818,396	1,059,298	1,376,406

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-46
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15-4, READING, PA. SMSA, 1950-1969

15-4 READING, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	255,959	273,337	285,312	293,615	294,336
PER CAPITA INCOME (1967$)	2,231	2,508	2,572	3,342	3,470
PER CAPITA INCOME RELATIVE (US=1.00)	1.08	1.03	1.00	1.01	1.01
TOTAL EMPLOYMENT	112,939	117,145			
EMPLOYMENT/POPULATION RATIO	.44	.43			
EARNINGS PER WORKER (1967$)	4,174	4,761			
EARNINGS PER WORKER RELATIVE(US=1.00)	.93	.89			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	570,985	685,637	733,940	981,193	1,021,209
TOTAL EARNINGS	471,422	557,672	607,198	819,177	850,349
AGRICULTURE, FORESTRY & FISHERIES	20,604	16,410	13,353	13,818	16,361
AGRICULTURE	20,562	16,246	13,187	13,772	16,316
FORESTRY & FISHERIES	43	164	166	45	44
MINING	609	5,824	8,385	10,327	9,990
METAL	(D)	(D)	(D)	(D)	(D)
COAL	7	21	19	30	20
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	23,105	24,820	25,983	39,039	39,286
MANUFACTURING	245,813	268,504	299,623	402,473	415,106
FOOD & KINDRED PRODUCTS	16,252	21,660	25,691	30,987	32,021
TEXTILE MILL PRODUCTS	79,592	43,157	44,325	48,880	48,910
APPAREL & OTHER FABRIC PRODUCTS	10,491	16,900	16,592	21,681	23,426
LUMBER PRODUCTS & FURNITURE	1,686	4,630	5,222	9,157	9,298
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	3,433	5,057	6,248	8,137	8,354
CHEMICALS & ALLIED PRODUCTS	5,419	8,703	9,064	14,064	10,059
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	42,168	50,624	54,893	71,503	72,630
FABRICATED METALS & ORDNANCE	12,323	12,526	15,203	15,716	16,262
MACHINERY, EXCLUDING ELECTRICAL		21,176	29,260	42,622	47,062
ELECTRICAL MACHINERY & SUPPLIES		23,036	35,594	47,893	48,745
TOTAL MACHINERY (1950 ONLY)	29,538				
MOTOR VEHICLES & EQUIPMENT	18,009	27,440	22,158	35,435	35,061
TRANS. EQUIP., EXCL. MTR. VEHS.	50	579	618	10,517	11,175
OTHER MANUFACTURING	19,324	24,205	24,396	31,118	36,004
TRANS., COMM. & PUBLIC UTILITIES	29,739	33,848	37,230	49,026	51,744
RAILROAD TRANSPORTATION	17,392	13,015	11,352	9,597	10,042
TRUCKING & WAREHOUSING	3,244	5,979	8,566	16,145	17,616
OTHER TRANSPORTATION & SERVICES	1,779	3,049	2,945	3,434	3,343
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	69,723	84,410	86,746	107,562	110,623
FINANCE, INSURANCE & REAL ESTATE	12,752	23,034	24,277	32,607	32,983
SERVICES	47,851	62,754	67,254	100,035	106,253
LODGING PLACES & PERSONAL SERV.	8,487	7,968	9,007	12,788	11,846
BUSINESS & REPAIR SERVICES	9,003	11,400	8,740	14,374	15,382
AMUSEMENT & RECREATION SERVICES	2,378	2,340	3,127	3,675	3,437
PRIVATE HOUSEHOLDS	5,270	5,588	5,746	3,949	3,823
PROFESSIONAL SERVICES	22,713	35,457	40,634	65,249	71,766
GOVERNMENT	21,225	38,068	44,348	64,290	68,002
CIVILIAN GOVERNMENT	19,463	35,909	42,207	61,729	65,293
FEDERAL GOVERNMENT	3,202	5,414	6,164	9,207	9,048
STATE & LOCAL GOVERNMENT	16,262	30,495	36,043	52,522	56,244
ARMED FORCES	1,762	2,159	2,141	2,561	2,709

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-47
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-4, READING, PA. SMSA, 1980-2020, SERIES C

15-4 READING, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	326,881	363,875	400,453	440,651	484,703
PER CAPITA INCOME (1967$)	4,908	6,352	8,520	11,200	14,673
PER CAPITA INCOME RELATIVE (US=1.00)	1.03	1.03	1.03	1.03	1.03
TOTAL EMPLOYMENT	147,490	161,520	180,648	199,212	218,473
EMPLOYMENT/POPULATION RATIO	.45	.44	.45	.45	.45
EARNINGS PER WORKER (1967$)	8,746	11,299	14,699	19,063	24,851
EARNINGS PER WORKER RELATIVE(US=1.00)	.93	.93	.93	.93	.94
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,604,250	2,311,292	3,411,910	4,935,135	7,112,267
TOTAL EARNINGS	1,289,905	1,824,952	2,655,425	3,797,644	5,429,376
AGRICULTURE, FORESTRY & FISHERIES	15,041	15,240	17,946	23,337	31,294
AGRICULTURE	14,986	15,172	17,859	23,228	31,159
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	13,116	17,318	23,323	31,115	41,613
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	63,716	92,475	137,281	199,342	287,184
MANUFACTURING	585,436	789,622	1,099,921	1,517,432	2,109,800
FOOD & KINDRED PRODUCTS	45,240	58,110	75,600	96,026	122,377
TEXTILE MILL PRODUCTS	57,283	63,938	74,143	85,767	101,035
APPAREL & OTHER FABRIC PRODUCTS	35,303	48,093	66,111	88,615	118,277
LUMBER PRODUCTS & FURNITURE	14,120	19,116	26,353	35,713	48,511
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	13,460	19,505	28,940	42,100	60,996
CHEMICALS & ALLIED PRODUCTS	23,205	33,992	51,006	75,078	110,016
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	88,143	107,599	134,222	165,019	205,471
FABRICATED METALS & ORDNANCE	23,185	30,442	41,388	55,700	75,136
MACHINERY, EXCLUDING ELECTRICAL	80,415	121,662	188,462	286,454	433,358
ELECTRICAL MACHINERY & SUPPLIES	78,549	118,190	180,356	267,412	393,534
MOTOR VEHICLES & EQUIPMENT	60,584	80,058	109,427	148,649	204,223
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	42,741	56,365	76,981	104,207	141,745
TRANS., COMM. & PUBLIC UTILITIES	71,212	96,124	134,330	185,867	258,968
RAILROAD TRANSPORTATION	10,948	11,500	12,200	12,612	13,111
TRUCKING & WAREHOUSING	25,014	35,280	51,087	72,690	103,321
OTHER TRANSPORTATION & SERVICES	4,473	6,501	9,662	14,066	20,400
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	174,629	248,533	363,476	519,778	740,448
FINANCE, INSURANCE & REAL ESTATE	55,166	81,617	122,856	179,922	261,007
SERVICES	187,367	289,735	451,018	677,595	1,001,561
LODGING PLACES & PERSONAL SERV.	19,043	26,766	38,599	54,626	77,128
BUSINESS & REPAIR SERVICES	28,722	46,100	74,065	114,206	172,315
AMUSEMENT & RECREATION SERVICES	5,575	7,948	11,567	16,499	23,449
PRIVATE HOUSEHOLDS	5,718	7,256	9,196	11,238	13,777
PROFESSIONAL SERVICES	128,309	201,666	317,591	481,026	714,893
GOVERNMENT	124,222	194,287	305,274	463,257	697,502
CIVILIAN GOVERNMENT	121,153	190,303	300,096	456,555	688,794
FEDERAL GOVERNMENT	11,758	13,475	15,294	16,562	17,626
STATE & LOCAL GOVERNMENT	109,395	176,828	284,802	439,993	671,168
ARMED FORCES	3,070	3,984	5,178	6,702	8,708

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-48
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15-5, TRENTON, N.J. SMSA, 1950-1969

15-5 TRENTON, NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	231,524	264,118	278,291	306,916	305,795
PER CAPITA INCOME (1967$)	2,581	2,987	3,105	3,818	3,933
PER CAPITA INCOME RELATIVE (US=1,00)	1,25	1,22	1,20	1,15	1,15
TOTAL EMPLOYMENT	97,900	109,334			
EMPLOYMENT/POPULATION RATIO	,42	,41			
EARNINGS PER WORKER (1967$)	5,097	6,375			
EARNINGS PER WORKER RELATIVE(US=1,00)	1,13	1,19			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	597,643	788,896	864,006	1,171,680	1,202,782
TOTAL EARNINGS	498,994	696,968	744,626	960,368	1,002,169
AGRICULTURE, FORESTRY & FISHERIES	8,238	5,782	6,219	6,358	6,881
AGRICULTURE	8,145	5,782	6,219	6,353	6,876
FORESTRY & FISHERIES	94	0	0	5	5
MINING	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	0	0	0	6	5
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	25,897	42,191	39,266	39,149	40,399
MANUFACTURING	228,863	269,443	275,526	336,599	341,118
FOOD & KINDRED PRODUCTS	8,003	8,664	9,029	11,530	10,618
TEXTILE MILL PRODUCTS	9,700	3,193	2,492	1,774	1,749
APPAREL & OTHER FABRIC PRODUCTS	9,167	8,566	5,996	9,122	8,757
LUMBER PRODUCTS & FURNITURE	3,279	1,523	1,611	2,150	2,176
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	3,914	6,390	9,509	27,101	26,685
CHEMICALS & ALLIED PRODUCTS	6,620	9,473	17,195	24,711	25,619
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	17,026	27,481	17,119	15,765	14,467
FABRICATED METALS & ORDNANCE	35,199	47,003	49,394	53,333	52,436
MACHINERY, EXCLUDING ELECTRICAL		27,453	31,754	39,401	42,885
ELECTRICAL MACHINERY & SUPPLIES		62,468	49,706	71,963	73,819
TOTAL MACHINERY (1950 ONLY)	65,520				
MOTOR VEHICLES & EQUIPMENT	0	0	0	12	10
TRANS. EQUIP., EXCL. MTR. VEHS.	359	54	55	40	29
OTHER MANUFACTURING	65,107	58,818	75,564	69,406	71,607
TRANS., COMM, & PUBLIC UTILITIES	24,303	42,532	44,270	52,762	54,152
RAILROAD TRANSPORTATION	7,057	9,291	8,980	8,078	7,476
TRUCKING & WAREHOUSING	5,550	11,864	11,564	16,527	17,004
OTHER TRANSPORTATION & SERVICES	4,092	3,206	3,151	4,398	3,920
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	81,049	103,778	108,017	127,614	126,356
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	61,459	108,393	125,126	184,437	205,869
LODGING PLACES & PERSONAL SERV.	9,883	10,395	11,578	13,594	14,002
BUSINESS & REPAIR SERVICES	7,003	21,800	21,302	34,134	43,941
AMUSEMENT & RECREATION SERVICES	2,129	2,641	3,126	2,838	2,731
PRIVATE HOUSEHOLDS	11,302	9,402	9,874	8,029	7,773
PROFESSIONAL SERVICES	31,141	54,154	79,247	125,842	137,422
GOVERNMENT	54,920	97,757	116,428	177,934	191,189
CIVILIAN GOVERNMENT	52,492	93,248	112,499	173,499	187,259
FEDERAL GOVERNMENT	5,865	13,346	15,261	22,710	23,324
STATE & LOCAL GOVERNMENT	46,627	79,902	97,238	150,789	163,935
ARMED FORCES	2,429	4,509	3,929	4,435	3,929

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-49
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-5, TRENTON, N.J. SMSA, 1980-2020, SERIES C

15-5 TRENTON, NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	381,633	453,431	526,520	604,798	686,705
PER CAPITA INCOME (1967$)	5,515	6,952	9,145	11,862	15,449
PER CAPITA INCOME RELATIVE (US=1.00)	1.16	1.13	1.10	1.09	1.08
TOTAL EMPLOYMENT	158,534	183,735	215,527	247,074	279,014
EMPLOYMENT/POPULATION RATIO	.42	.41	.41	.41	.41
EARNINGS PER WORKER (1967$)	10,521	13,598	17,707	22,971	29,984
EARNINGS PER WORKER RELATIVE(US=1.00)	1.12	1.12	1.12	1.12	1.13
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	2,104,522	3,152,445	4,815,032	7,173,885	10,609,196
TOTAL EARNINGS	1,668,001	2,498,503	3,816,245	5,675,464	8,365,884
AGRICULTURE, FORESTRY & FISHERIES	5,877	6,033	7,102	9,236	12,388
AGRICULTURE	5,866	6,019	7,084	9,214	12,361
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	64,086	92,926	137,821	200,001	287,960
MANUFACTURING	494,903	668,155	933,413	1,289,367	1,785,855
FOOD & KINDRED PRODUCTS	15,720	19,305	24,238	29,959	37,420
TEXTILE MILL PRODUCTS	(S)	(S)	(S)	(S)	(S)
APPAREL & OTHER FABRIC PRODUCTS	10,294	11,373	13,107	15,132	17,810
LUMBER PRODUCTS & FURNITURE	3,190	4,194	5,652	7,534	10,107
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	47,376	70,471	106,615	157,310	230,174
CHEMICALS & ALLIED PRODUCTS	52,518	87,011	143,049	225,088	345,587
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	19,513	23,820	29,714	36,531	45,487
FABRICATED METALS & ORDNANCE	84,699	117,106	166,855	234,877	331,305
MACHINERY, EXCLUDING ELECTRICAL	57,148	74,387	100,444	134,593	181,137
ELECTRICAL MACHINERY & SUPPLIES	99,086	134,992	187,160	252,793	339,360
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	87,813	102,758	126,057	154,935	192,901
TRANS., COMM. & PUBLIC UTILITIES	82,909	117,875	171,650	245,200	349,747
RAILROAD TRANSPORTATION	10,886	12,736	14,817	16,531	18,230
TRUCKING & WAREHOUSING	26,127	37,306	54,580	78,295	111,965
OTHER TRANSPORTATION & SERVICES	4,444	5,979	8,298	11,335	15,522
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	225,390	336,942	513,927	762,057	1,118,981
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	362,683	580,072	929,038	1,428,373	2,148,883
LODGING PLACES & PERSONAL SERV.	21,886	30,962	44,925	63,949	90,811
BUSINESS & REPAIR SERVICES	68,444	109,853	176,500	272,199	410,816
AMUSEMENT & RECREATION SERVICES	6,006	9,959	16,217	25,134	37,902
PRIVATE HOUSEHOLDS	10,132	12,057	14,526	17,067	20,328
PROFESSIONAL SERVICES	256,214	417,240	676,869	1,050,024	1,589,027
GOVERNMENT	372,396	606,858	986,871	1,539,694	2,367,871
CIVILIAN GOVERNMENT	367,473	600,468	978,566	1,528,946	2,353,904
FEDERAL GOVERNMENT	33,453	43,678	57,301	72,471	89,975
STATE & LOCAL GOVERNMENT	334,020	556,790	921,265	1,456,474	2,263,929
ARMED FORCES	4,923	6,390	8,305	10,749	13,967

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-50
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15-6, VINELAND-MILLVILLE-BRIDGETON, N.J. SMSA, 1950-1969

15-6 VINELAND-MILLVILLE-BRIDGETON, NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	89,269	105,938	110,690	119,786	120,722
PER CAPITA INCOME (1967$)	2,083	2,454	2,653	3,210	3,324
PER CAPITA INCOME RELATIVE (US=1.00)	1.01	1.01	1.03	.97	.97
TOTAL EMPLOYMENT	35,559	41,557			
EMPLOYMENT/POPULATION RATIO	.40	.39			
EARNINGS PER WORKER (1967$)	4,546	5,482			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.01	1.02			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	185,916	259,991	293,705	384,507	401,252
TOTAL EARNINGS	161,651	227,800	257,801	329,180	342,005
AGRICULTURE, FORESTRY & FISHERIES	26,512	18,814	21,427	19,954	18,217
AGRICULTURE	23,433	18,068	20,689	18,913	17,250
FORESTRY & FISHERIES	3,079	746	738	1,042	967
MINING	1,793	3,578	3,241	3,115	3,319
CRUDE PETROLEUM & NATURAL GAS	0	0	0	0	3
NONMETALLIC, EXCEPT FUELS	1,793	3,578	3,241	3,115	3,316
CONTRACT CONSTRUCTION	7,052	9,361	12,932	17,264	16,836
MANUFACTURING	70,678	102,423	117,649	146,135	152,876
FOOD & KINDRED PRODUCTS	14,281	24,450	20,587	21,829	20,433
TEXTILE MILL PRODUCTS	3,489	2,997	3,217	5,016	5,444
APPAREL & OTHER FABRIC PRODUCTS	14,430	15,314	18,199	21,814	21,436
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	184	816	996	1,812	1,794
PRINTING & PUBLISHING	1,169	2,553	3,106	3,941	4,359
CHEMICALS & ALLIED PRODUCTS	558	1,182	1,600	1,906	1,783
PETROLEUM REFINING	D	0	0	0	33
PRIMARY METALS	872	1,264	2,134	1,393	1,741
FABRICATED METALS & ORDNANCE	117	433	243	600	619
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	(D)				
MOTOR VEHICLES & EQUIPMENT	(D)	(D)	(D)	(D)	(D)
TRANS. EQUIP., EXCL. MTR. VEHS.	106	837	916	1,303	904
OTHER MANUFACTURING	32,337	48,090	59,788	78,146	84,951
TRANS., COMM. & PUBLIC UTILITIES	8,371	17,923	19,028	25,730	27,908
RAILROAD TRANSPORTATION	753	1,161	1,118	1,399	2,072
TRUCKING & WAREHOUSING	2,692	6,924	8,626	13,829	15,713
OTHER TRANSPORTATION & SERVICES	2,498	4,235	4,072	5,163	4,524
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	23,396	31,732	32,712	42,332	44,507
FINANCE, INSURANCE & REAL ESTATE	2,661	8,505	8,182	12,733	12,704
SERVICES	12,065	17,324	20,949	29,242	30,609
LODGING PLACES & PERSONAL SERV.	2,096	2,245	2,549	3,842	3,530
BUSINESS & REPAIR SERVICES	1,797	3,434	3,181	5,927	5,926
AMUSEMENT & RECREATION SERVICES	468	628	648	686	531
PRIVATE HOUSEHOLDS	2,376	2,089	2,300	1,448	1,402
PROFESSIONAL SERVICES	5,328	8,927	12,271	17,339	19,221
GOVERNMENT	9,123	18,140	21,680	32,674	35,028
CIVILIAN GOVERNMENT	8,531	17,137	20,678	31,430	33,749
FEDERAL GOVERNMENT	1,263	1,868	2,984	2,987	2,998
STATE & LOCAL GOVERNMENT	7,268	15,270	17,694	28,444	30,750
ARMED FORCES	592	1,003	1,002	1,244	1,279

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-51
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-6, VINELAND-MILLVILLE-BRIDGETON, N.J. SMSA, 1980-2020, SERIES C

15-6 VINELAND-MILLVILLE-BRIDGETON, NEW JERSEY SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	153,716	178,464	203,486	230,476	259,004
PER CAPITA INCOME (1967$)	4,514	5,900	7,977	10,546	13,882
PER CAPITA INCOME RELATIVE (US=1.00)	.95	.96	.96	.97	.97
TOTAL EMPLOYMENT	59,693	68,933	80,626	92,220	103,973
EMPLOYMENT/POPULATION RATIO	.39	.39	.40	.40	.40
EARNINGS PER WORKER (1967$)	9,632	12,470	16,256	21,117	27,540
EARNINGS PER WORKER RELATIVE(US=1.00)	1.03	1.02	1.03	1.03	1.04
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	693,843	1,052,882	1,623,142	2,430,521	3,595,435
TOTAL EARNINGS	574,936	859,598	1,310,673	1,947,445	2,863,372
AGRICULTURE, FORESTRY & FISHERIES	20,401	21,232	25,138	32,605	43,453
AGRICULTURE	19,010	19,505	22,959	29,861	40,057
FORESTRY & FISHERIES	1,391	1,726	2,178	2,743	3,396
MINING	4,523	5,871	7,916	10,564	14,310
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	4,523	5,871	7,916	10,564	14,310
CONTRACT CONSTRUCTION	31,701	49,027	76,517	115,462	171,123
MANUFACTURING	243,509	349,910	513,759	739,559	1,059,169
FOOD & KINDRED PRODUCTS	27,152	31,687	38,083	45,390	55,126
TEXTILE MILL PRODUCTS	6,171	7,073	8,375	9,842	11,727
APPAREL & OTHER FABRIC PRODUCTS	31,576	40,907	54,339	71,336	94,385
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	3,756	6,081	9,821	15,255	23,224
PRINTING & PUBLISHING	7,408	11,387	17,628	26,440	39,130
CHEMICALS & ALLIED PRODUCTS	4,170	6,901	11,497	18,684	29,869
PETROLEUM REFINING	(S)	(S)	(S)	(S)	(S)
PRIMARY METALS	1,736	2,119	2,643	3,249	4,044
FABRICATED METALS & ORDNANCE	2,175	4,172	7,472	12,383	19,598
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	(D)	(D)	(D)	(D)	(D)
TRANS. EQUIP., EXCL. MTR. VEHS.	1,892	2,596	3,672	5,133	7,193
OTHER MANUFACTURING	144,712	219,667	335,854	497,822	727,155
TRANS., COMM. & PUBLIC UTILITIES	42,518	62,767	94,279	138,077	200,645
RAILROAD TRANSPORTATION	2,167	2,721	3,333	3,860	4,375
TRUCKING & WAREHOUSING	23,423	34,832	52,638	77,453	112,846
OTHER TRANSPORTATION & SERVICES	7,694	11,998	18,878	28,732	43,097
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	85,247	136,846	220,405	340,420	514,716
FINANCE, INSURANCE & REAL ESTATE	26,189	43,161	70,290	109,031	164,732
SERVICES	54,220	83,369	129,225	193,518	285,001
LODGING PLACES & PERSONAL SERV.	6,449	9,439	14,090	20,511	29,618
BUSINESS & REPAIR SERVICES	10,211	15,149	22,726	33,060	47,471
AMUSEMENT & RECREATION SERVICES	985	1,391	2,007	2,843	4,021
PRIVATE HOUSEHOLDS	1,849	2,216	2,686	3,173	3,788
PROFESSIONAL SERVICES	34,726	55,174	87,716	133,931	200,103
GOVERNMENT	66,627	107,415	173,146	268,209	410,222
CIVILIAN GOVERNMENT	65,012	105,318	170,421	264,683	405,640
FEDERAL GOVERNMENT	4,304	5,180	6,226	7,225	8,238
STATE & LOCAL GOVERNMENT	60,708	100,137	164,195	257,458	397,402
ARMED FORCES	1,615	2,097	2,725	3,526	4,582

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-52
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15-7, WILMINGTON, DELAWARE-N.J.-MD. SMSA, 1950-1969

15-7 WILMINGTON, DELAWARE-NEW JERSEY-MARYLAND SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	304,295	409,876	436,001	486,242	492,101
PER CAPITA INCOME (1967$)	2,943	3,219	3,368	4,055	4,170
PER CAPITA INCOME RELATIVE (US=1.00)	1.43	1.32	1.30	1.22	1.22
TOTAL EMPLOYMENT	117,828	157,488			
EMPLOYMENT/POPULATION RATIO	.39	.38			
EARNINGS PER WORKER (1967$)	5,596	6,512			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.24	1.21			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	895,405	1,319,223	1,468,237	1,971,866	2,051,980
TOTAL EARNINGS	659,413	1,025,526	1,145,639	1,620,631	1,692,012
AGRICULTURE, FORESTRY & FISHERIES	27,100	18,624	19,404	23,942	26,426
AGRICULTURE	26,714	18,479	19,262	23,837	26,374
FORESTRY & FISHERIES	385	145	144	105	52
MINING	350	1,241	928	893	1,020
METAL	0	10	0	0	0
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	52,503	72,568	74,641	106,921	118,838
MANUFACTURING	306,478	477,455	534,924	743,781	759,482
FOOD & KINDRED PRODUCTS	9,475	14,574	15,415	14,586	14,972
TEXTILE MILL PRODUCTS	14,297	11,289	10,726	9,290	9,158
APPAREL & OTHER FABRIC PRODUCTS	8,403	10,440	5,349	6,486	6,795
LUMBER PRODUCTS & FURNITURE	825	1,148	1,318	1,447	1,562
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	5,394	8,413	9,781	12,104	12,590
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	11,648	20,457	17,141	18,442	18,840
MACHINERY, EXCLUDING ELECTRICAL		11,276	10,148	7,111	7,737
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	(D)				
MOTOR VEHICLES & EQUIPMENT	(D)	(D)	(D)	(D)	(D)
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	44,599	59,824	61,644	78,709	80,679
RAILROAD TRANSPORTATION	24,752	19,702	17,588	16,061	15,792
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	3,969	6,389	7,847	12,965	13,447
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	88,620	124,694	137,500	196,371	208,593
FINANCE, INSURANCE & REAL ESTATE	24,829	37,679	41,265	61,200	63,288
SERVICES	65,187	111,438	130,916	187,002	197,978
LODGING PLACES & PERSONAL SERV.	8,526	11,165	11,463	17,776	18,235
BUSINESS & REPAIR SERVICES	6,368	16,754	22,460	32,084	34,967
AMUSEMENT & RECREATION SERVICES	4,263	6,397	7,334	9,442	8,328
PRIVATE HOUSEHOLDS	18,472	17,861	17,961	16,338	15,819
PROFESSIONAL SERVICES	27,559	59,261	71,699	111,363	120,628
GOVERNMENT	49,748	122,005	144,415	221,812	235,705
CIVILIAN GOVERNMENT	45,881	86,947	109,339	179,276	190,670
FEDERAL GOVERNMENT	19,924	30,345	36,815	61,823	63,831
STATE & LOCAL GOVERNMENT	25,956	56,602	72,524	117,454	126,838
ARMED FORCES	3,868	35,059	35,076	42,536	45,035

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-53
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-7, WILMINGTON, DELAWARE-N.J.-MD. SMSA, 1980-2020, SERIES C

15-7 WILMINGTON, DELAWARE-NEW JERSEY-MARYLAND SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	612,575	730,807	851,415	980,273	1,115,175
PER CAPITA INCOME (1967$)	5,804	7,328	9,635	12,465	16,150
PER CAPITA INCOME RELATIVE (US=1.00)	1.22	1.19	1.16	1.14	1.13
TOTAL EMPLOYMENT	246,135	292,705	350,291	407,796	465,848
EMPLOYMENT/POPULATION RATIO	.40	.40	.41	.42	.42
EARNINGS PER WORKER (1967$)	11,114	13,930	17,705	22,589	29,160
EARNINGS PER WORKER RELATIVE(US=1.00)	1.18	1.14	1.12	1.10	1.10
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	3,555,418	5,355,692	8,202,979	12,219,400	18,010,299
TOTAL EARNINGS	2,735,594	4,077,423	6,201,970	9,211,897	13,584,258
AGRICULTURE, FORESTRY & FISHERIES	25,075	27,397	32,278	41,965	56,237
AGRICULTURE	24,800	27,056	31,848	41,422	55,565
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	1,295	1,678	2,258	3,005	4,058
METAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	178,845	264,777	399,414	587,458	854,401
MANUFACTURING	1,169,593	1,661,871	2,427,281	3,490,490	5,016,847
FOOD & KINDRED PRODUCTS	18,630	21,990	26,700	32,097	39,260
TEXTILE MILL PRODUCTS	12,116	13,843	16,428	19,455	23,497
APPAREL & OTHER FABRIC PRODUCTS	6,136	5,837	5,883	6,024	6,354
LUMBER PRODUCTS & FURNITURE	2,262	2,969	3,997	5,321	7,144
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	19,542	27,977	41,290	60,113	87,720
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	32,037	46,987	70,473	103,541	150,994
MACHINERY, EXCLUDING ELECTRICAL	11,488	16,120	23,282	33,147	47,159
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	(D)	(D)	(D)	(D)	(D)
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	118,163	165,975	240,885	345,035	495,339
RAILROAD TRANSPORTATION	18,433	19,473	20,762	21,505	22,274
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	19,923	31,555	50,224	77,106	116,335
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	359,733	568,780	913,726	1,422,722	2,190,334
FINANCE, INSURANCE & REAL ESTATE	106,251	161,329	249,010	374,051	557,115
SERVICES	363,552	581,061	931,900	1,438,074	2,177,575
LODGING PLACES & PERSONAL SERV.	32,193	49,815	77,596	116,647	172,438
BUSINESS & REPAIR SERVICES	64,070	102,838	165,234	254,823	384,625
AMUSEMENT & RECREATION SERVICES	14,487	20,652	30,055	42,865	60,926
PRIVATE HOUSEHOLDS	23,063	28,871	36,219	43,923	53,550
PROFESSIONAL SERVICES	229,738	378,885	622,797	979,815	1,506,035
GOVERNMENT	413,086	644,554	1,005,217	1,509,096	2,232,353
CIVILIAN GOVERNMENT	362,354	578,707	919,638	1,398,327	2,088,424
FEDERAL GOVERNMENT	110,292	162,490	236,808	327,085	434,896
STATE & LOCAL GOVERNMENT	252,062	416,216	682,830	1,071,242	1,653,528
ARMED FORCES	50,732	65,847	85,579	110,769	143,929

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-54
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 15-8, RESIDUAL NON-SMSA AREA, 1950-1969

15-8 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	386,622	418,939	442,873	506,377	514,982
PER CAPITA INCOME (1967$)	1,775	2,100	2,136	2,563	2,650
PER CAPITA INCOME RELATIVE (US=1.00)	.86	.86	.83	.77	.77
TOTAL EMPLOYMENT	142,113	149,918			
EMPLOYMENT/POPULATION RATIO	.37	.36			
EARNINGS PER WORKER (1967$)	3,685	4,176			
EARNINGS PER WORKER RELATIVE(US=1.00)	.82	.78			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	686,315	879,772	945,848	1,297,880	1,364,676
TOTAL EARNINGS	523,680	626,060	660,342	882,842	926,938
AGRICULTURE, FORESTRY & FISHERIES	29,453	13,873	11,366	9,691	11,644
AGRICULTURE	25,449	11,440	8,900	8,344	10,254
FORESTRY & FISHERIES	4,003	2,433	2,467	1,344	1,390
MINING	(D)	(D)	(D)	(D)	(D)
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	0	0	70	23	21
NONMETALLIC, EXCEPT FUELS	990	1,428	1,997	1,894	2,073
CONTRACT CONSTRUCTION	29,371	57,107	47,653	79,585	76,469
MANUFACTURING	116,458	155,485	175,441	230,471	247,664
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	35,967	44,390	49,176	62,674	65,870
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	5,463	12,752	19,656	26,930	27,171
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	23,448	25,331	26,717	34,017	35,931
FABRICATED METALS & ORDNANCE	6,334	12,588	9,528	10,616	12,066
MACHINERY, EXCLUDING ELECTRICAL		1,567	1,937	9,814	10,710
ELECTRICAL MACHINERY & SUPPLIES		5,381	8,262	7,632	7,415
TOTAL MACHINERY (1950 ONLY)	5,104				
MOTOR VEHICLES & EQUIPMENT	7	1,613	1,214	508	582
TRANS. EQUIP., EXCL. MTR. VEHS.	767	3,088	2,892	3,333	5,680
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	40,412	49,802	52,671	60,942	66,023
RAILROAD TRANSPORTATION	25,344	22,838	20,199	17,456	17,412
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	2,132	2,131	4,379	6,540	7,305
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	3,736	8,876	11,960	16,242	17,067
WHOLESALE & RETAIL TRADE	94,006	114,797	120,121	153,273	160,618
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	55,010	77,733	85,251	121,138	130,220
LODGING PLACES & PERSONAL SERV.	16,302	20,443	21,495	31,164	32,092
BUSINESS & REPAIR SERVICES	3,647	5,875	6,607	12,450	14,183
AMUSEMENT & RECREATION SERVICES	4,894	5,831	6,597	7,063	7,149
PRIVATE HOUSEHOLDS	6,113	6,715	6,833	4,334	4,194
PROFESSIONAL SERVICES	24,055	38,868	43,721	66,125	72,603
GOVERNMENT	70,732	109,965	125,153	178,405	184,798
CIVILIAN GOVERNMENT	57,355	81,785	97,463	142,642	150,210
FEDERAL GOVERNMENT	13,081	29,030	32,474	42,029	41,292
STATE & LOCAL GOVERNMENT	44,275	52,757	64,989	100,613	108,919
ARMED FORCES	13,375	28,179	27,689	35,762	34,586

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-55
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-8, RESIDUAL NON-SMSA AREA, 1980-2020, SERIES C

15-8 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	536,707	586,570	635,112	689,130	749,495
PER CAPITA INCOME (1967$)	3,730	5,044	7,027	9,530	12,801
PER CAPITA INCOME RELATIVE (US=1.00)	.78	.82	.85	.87	.90
TOTAL EMPLOYMENT	194,261	213,919	240,546	266,251	291,988
EMPLOYMENT/POPULATION RATIO	.36	.36	.38	.39	.39
EARNINGS PER WORKER (1967$)	7,744	10,403	13,963	18,574	24,740
EARNINGS PER WORKER RELATIVE(US=1.00)	.82	.86	.88	.91	.93
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	2,002,004	2,958,420	4,462,802	6,567,387	9,594,268
TOTAL EARNINGS	1,504,447	2,225,349	3,358,836	4,945,382	7,223,656
AGRICULTURE, FORESTRY & FISHERIES	9,539	10,101	12,091	15,617	20,578
AGRICULTURE	7,685	7,791	9,170	11,927	16,000
FORESTRY & FISHERIES	1,855	2,310	2,921	3,690	4,579
MINING	(D)	(D)	(D)	(D)	(D)
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	2,754	3,574	4,818	6,433	8,711
CONTRACT CONSTRUCTION	128,565	188,849	283,190	414,660	601,382
MANUFACTURING	344,429	470,520	661,443	918,045	1,279,642
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	96,807	132,972	186,745	258,419	359,394
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	43,378	61,826	90,572	130,418	187,412
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	42,412	52,538	66,434	82,680	104,134
FABRICATED METALS & ORDNANCE	15,495	21,371	30,433	42,783	60,157
MACHINERY, EXCLUDING ELECTRICAL	18,140	27,563	42,405	63,387	93,461
ELECTRICAL MACHINERY & SUPPLIES	11,735	16,971	25,067	36,217	52,265
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	6,503	9,591	14,527	21,664	32,293
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	91,803	127,673	183,986	262,465	376,527
RAILROAD TRANSPORTATION	20,778	22,502	24,580	26,051	27,554
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	10,798	17,576	28,535	44,429	67,705
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	26,357	37,490	54,565	77,725	110,524
WHOLESALE & RETAIL TRADE	277,660	423,364	656,617	986,372	1,460,542
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	226,227	353,429	555,920	843,213	1,255,753
LODGING PLACES & PERSONAL SERV.	50,346	73,368	109,134	158,491	228,577
BUSINESS & REPAIR SERVICES	21,657	33,025	50,827	75,676	111,094
AMUSEMENT & RECREATION SERVICES	10,196	14,539	21,164	30,186	42,912
PRIVATE HOUSEHOLDS	6,851	8,576	10,828	13,295	16,509
PROFESSIONAL SERVICES	137,177	223,921	363,968	565,565	856,662
GOVERNMENT	347,833	545,054	854,563	1,291,003	1,923,508
CIVILIAN GOVERNMENT	303,721	488,098	780,834	1,195,899	1,800,289
FEDERAL GOVERNMENT	78,539	114,557	165,620	227,361	300,864
STATE & LOCAL GOVERNMENT	225,181	373,541	615,214	968,538	1,499,425
ARMED FORCES	44,112	56,955	73,730	95,105	123,219

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-56
SUB-SEGMENT AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 16C - HARRISBURG, PA.

16-1 Harrisburg, Pa. SMSA
- Cumberland, Pennsylvania
- Dauphin, Pennsylvania
- Perry, Pennsylvania

16-2 Lancaster, Pa. SMSA
- Lancaster, Pennsylvania

16-3 York, Pa. SMSA
- Adams, Pennsylvania
- York, Pennsylvania

16-4 Altoona, Pa. SMSA
- Blair, Pennsylvania

16-5 Residual Non-SMSA Area[1]
- Bedford, Pennsylvania
- Franklin, Pennsylvania
- Fulton, Pennsylvania
- Huntingdon, Pennsylvania
- Juniata, Pennsylvania
- Lebanon, Pennsylvania
- Mifflin, Pennsylvania
- Montour, Pennsylvania
- Northumberland, Pennsylvania
- Snyder, Pennsylvania
- Union, Pennsylvania

[1]In addition, projections of population and total personal income will be made for the following group of counties to permit reconciliation with State planning regions:

- Franklin, Pennsylvania
- Lebanon, Pennsylvania

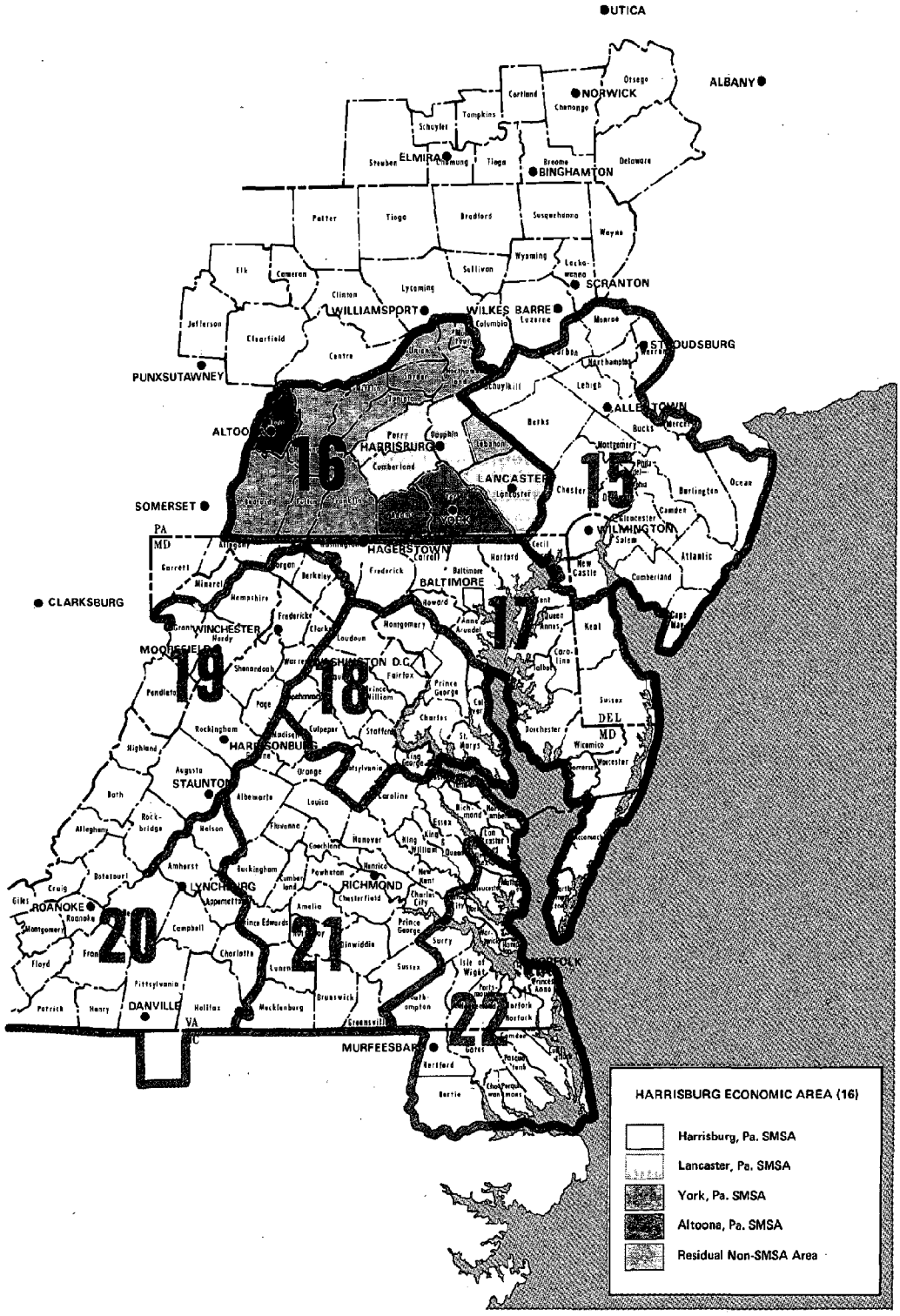
UTICA
ALBANY
NORWICK
ELMIRA
BINGHAMTON
SCRANTON
WILLIAMSPORT
WILKES BARRE
ST. CLOUDSBURG
PUNXSUTAWNEY
ALTOONA
HARRISBURG
LANCASTER
ALLENTOWN
SOMERSET
WILMINGTON
HAGERSTOWN
BALTIMORE
CLARKSBURG
WINCHESTER
WASHINGTON D.C.
HARRISONBURG
STAUNTON
LYNCHBURG
RICHMOND
ROANOKE
DANVILLE
NORFOLK
MURFEESBORO
16
15
17
19
18
20
21
22
HARRISBURG ECONOMIC AREA (16)
Harrisburg, Pa. SMSA
Lancaster, Pa. SMSA
York, Pa. SMSA
Altoona, Pa. SMSA
Residual Non-SMSA Area

FIGURE 3-23

TABLE 3-57
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 16, HARRISBURG, PA., 1950-1969

ECONOMIC AREA 16
HARRISBURG, PENNSYLVANIA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	1,427,165	1,569,787	1,620,377	1,702,919	1,709,366
PER CAPITA INCOME (1967$)	1,981	2,259	2,330	3,043	3,208
PER CAPITA INCOME RELATIVE (US=1.00)	.96	.93	.90	.92	.93
TOTAL EMPLOYMENT	550,237	604,123			
EMPLOYMENT/POPULATION RATIO	.39	.38			
EARNINGS PER WORKER (1967$)	4,180	4,777			
EARNINGS PER WORKER RELATIVE(US=1.00)	.93	.89			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	2,827,181	3,545,581	3,775,310	5,181,843	5,483,213
TOTAL EARNINGS	2,300,182	2,885,616	3,037,589	4,155,718	4,419,740
AGRICULTURE, FORESTRY & FISHERIES	194,615	151,259	118,044	145,932	174,259
AGRICULTURE	193,559	150,374	117,127	145,647	173,946
FORESTRY & FISHERIES	1,056	885	917	288	317
MINING	53,537	34,535	31,084	26,569	24,605
METAL	(D)	(D)	(D)	(D)	(D)
COAL	34,540	11,476	8,374	6,242	5,554
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	13,522	16,650	17,013	14,264	13,090
CONTRACT CONSTRUCTION	117,669	153,714	152,608	258,315	293,005
MANUFACTURING	771,507	1,034,478	1,103,692	1,551,856	1,634,770
FOOD & KINDRED PRODUCTS	96,675	119,383	130,006	157,476	164,206
TEXTILE MILL PRODUCTS	89,823	51,923	53,504	70,949	72,452
APPAREL & OTHER FABRIC PRODUCTS	76,994	106,054	115,423	140,656	141,652
LUMBER PRODUCTS & FURNITURE	40,250	48,700	47,379	70,786	76,261
PAPER & ALLIED PRODUCTS	29,231	42,709	51,205	62,840	66,603
PRINTING & PUBLISHING	26,990	40,687	46,188	68,602	75,541
CHEMICALS & ALLIED PRODUCTS	18,960	32,994	31,862	42,849	43,656
PETROLEUM REFINING	6,100	2,484	3,154	5,166	5,606
PRIMARY METALS	102,198	108,191	104,912	154,428	150,548
FABRICATED METALS & ORDNANCE	40,585	80,562	78,646	139,852	142,987
MACHINERY, EXCLUDING ELECTRICAL		120,000	128,714	197,399	222,278
ELECTRICAL MACHINERY & SUPPLIES		66,507	81,540	119,681	130,240
TOTAL MACHINERY (1950 ONLY)	107,752				
MOTOR VEHICLES & EQUIPMENT	4,801	6,428	4,233	13,299	17,353
TRANS. EQUIP., EXCL. MTR. VEHS.	6,720	26,193	22,202	51,581	60,572
OTHER MANUFACTURING	124,421	181,663	204,726	256,297	264,818
TRANS., COMM. & PUBLIC UTILITIES	243,637	259,491	264,775	305,370	323,930
RAILROAD TRANSPORTATION	156,475	122,941	106,854	87,643	89,140
TRUCKING & WAREHOUSING	33,524	60,990	68,023	99,577	107,797
OTHER TRANSPORTATION & SERVICES	9,782	10,483	10,914	13,914	17,484
COMMUNICATIONS	23,726	36,604	40,915	54,238	57,087
UTILITIES (ELEC.,GAS, SANITARY)	20,131	28,477	38,072	49,998	52,419
WHOLESALE & RETAIL TRADE	349,713	461,130	466,975	599,838	628,959
FINANCE, INSURANCE & REAL ESTATE	51,200	86,774	92,620	127,904	131,583
SERVICES	198,158	289,449	319,343	467,045	490,308
LODGING PLACES & PERSONAL SERV.	34,873	38,299	42,000	60,110	60,682
BUSINESS & REPAIR SERVICES	19,998	30,170	35,873	60,379	65,488
AMUSEMENT & RECREATION SERVICES	12,651	12,696	13,153	14,975	14,970
PRIVATE HOUSEHOLDS	27,263	32,317	31,211	20,935	20,265
PROFESSIONAL SERVICES	103,379	175,964	197,105	310,650	328,899
GOVERNMENT	320,145	414,789	488,447	672,889	718,332
CIVILIAN GOVERNMENT	285,417	383,224	453,438	645,566	683,172
FEDERAL GOVERNMENT	124,791	180,485	207,388	200,890	204,697
STATE & LOCAL GOVERNMENT	160,625	202,740	246,051	444,678	478,478
ARMED FORCES	34,729	31,565	35,008	27,321	35,158

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-58
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16, HARRISBURG, PA., 1980-2020, SERIES C

ECONOMIC AREA 16
HARRISBURG, PENNSYLVANIA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	1,976,298	2,257,654	2,551,659	2,897,835	3,296,525
PER CAPITA INCOME (1967$)	4,482	5,878	7,995	10,619	14,035
PER CAPITA INCOME RELATIVE (US=1.00)	.94	.95	.96	.97	.98
TOTAL EMPLOYMENT	812,519	916,430	1,058,878	1,210,036	1,375,419
EMPLOYMENT/POPULATION RATIO	.41	.41	.41	.42	.42
EARNINGS PER WORKER (1967$)	8,666	11,380	14,991	19,621	25,768
EARNINGS PER WORKER RELATIVE(US=1.00)	.92	.94	.95	.96	.97
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	8,857,694	13,269,656	20,400,038	30,772,124	46,265,322
TOTAL EARNINGS	7,041,073	10,428,982	15,874,150	23,741,799	35,442,453
AGRICULTURE, FORESTRY & FISHERIES	154,336	163,551	192,533	250,390	335,802
AGRICULTURE	154,029	163,180	192,076	249,824	335,121
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	32,151	37,955	46,775	57,589	72,177
METAL	(D)	(D)	(D)	(D)	(D)
COAL	7,419	7,661	8,190	8,722	9,300
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	17,682	21,481	27,317	34,520	44,562
CONTRACT CONSTRUCTION	444,267	653,006	986,326	1,464,429	2,163,740
MANUFACTURING	2,469,306	3,506,472	5,130,008	7,410,255	10,745,130
FOOD & KINDRED PRODUCTS	220,868	285,453	378,678	496,251	658,028
TEXTILE MILL PRODUCTS	91,045	108,070	132,731	162,269	201,881
APPAREL & OTHER FABRIC PRODUCTS	202,885	265,668	357,379	475,557	637,957
LUMBER PRODUCTS & FURNITURE	111,628	152,561	213,944	296,445	414,426
PAPER & ALLIED PRODUCTS	108,038	160,587	244,636	366,079	547,004
PRINTING & PUBLISHING	112,063	158,720	231,257	332,495	480,203
CHEMICALS & ALLIED PRODUCTS	65,026	90,069	128,252	180,574	253,951
PETROLEUM REFINING	8,537	12,246	17,697	24,964	35,636
PRIMARY METALS	185,894	225,241	279,415	341,621	423,099
FABRICATED METALS & ORDNANCE	254,450	405,569	655,619	1,032,343	1,606,698
MACHINERY, EXCLUDING ELECTRICAL	343,331	501,741	751,925	1,106,032	1,622,835
ELECTRICAL MACHINERY & SUPPLIES	227,759	359,988	575,557	891,890	1,372,950
MOTOR VEHICLES & EQUIPMENT	23,933	32,897	46,825	65,345	91,984
TRANS. EQUIP., EXCL. MTR. VEHS.	106,265	162,267	252,488	385,007	583,821
OTHER MANUFACTURING	407,584	585,394	863,606	1,253,383	1,815,059
TRANS., COMM. & PUBLIC UTILITIES	464,624	647,946	933,511	1,333,737	1,917,458
RAILROAD TRANSPORTATION	110,881	129,578	152,598	173,832	197,347
TRUCKING & WAREHOUSING	161,643	235,324	351,872	517,660	758,921
OTHER TRANSPORTATION & SERVICES	27,698	43,178	68,596	109,092	172,018
COMMUNICATIONS	87,892	132,761	205,388	311,250	469,666
UTILITIES (ELEC.,GAS, SANITARY)	76,510	107,105	155,057	221,903	319,505
WHOLESALE & RETAIL TRADE	1,044,576	1,573,127	2,436,394	3,697,157	5,597,816
FINANCE, INSURANCE & REAL ESTATE	220,148	337,320	528,683	811,210	1,239,847
SERVICES	905,690	1,469,189	2,405,255	3,812,855	5,948,576
LODGING PLACES & PERSONAL SERV.	102,181	150,825	228,645	340,410	505,929
BUSINESS & REPAIR SERVICES	120,438	200,761	336,816	548,074	875,208
AMUSEMENT & RECREATION SERVICES	25,888	38,714	59,288	89,549	134,207
PRIVATE HOUSEHOLDS	28,330	35,655	45,464	56,770	71,569
PROFESSIONAL SERVICES	628,854	1,043,234	1,735,041	2,778,052	4,361,663
GOVERNMENT	1,305,976	2,040,416	3,214,663	4,904,177	7,421,907
CIVILIAN GOVERNMENT	1,263,186	1,984,900	3,142,532	4,810,837	7,300,650
FEDERAL GOVERNMENT	315,876	429,522	587,962	772,626	989,081
STATE & LOCAL GOVERNMENT	947,310	1,555,378	2,554,570	4,038,211	6,311,568
ARMED FORCES	42,789	55,516	72,132	93,340	121,257

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-59
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 16-1, HARRISBURG, PA. SMSA, 1950-1969

16-1 HARRISBURG, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	317,294	368,851	379,578	404,677	406,739
PER CAPITA INCOME (1967$)	2,202	2,494	2,529	3,304	3,497
PER CAPITA INCOME RELATIVE (US=1.00)	1.07	1.02	.98	1.00	1.02
TOTAL EMPLOYMENT	129,368	146,586			
EMPLOYMENT/POPULATION RATIO	.41	.40			
EARNINGS PER WORKER (1967$)	4,408	5,348			
EARNINGS PER WORKER RELATIVE(US=1.00)	.98	1.00			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	698,722	919,903	959,790	1,336,927	1,422,253
TOTAL EARNINGS	570,256	784,010	821,633	1,129,413	1,206,843
AGRICULTURE, FORESTRY & FISHERIES	22,030	15,759	11,731	16,420	19,586
AGRICULTURE	21,745	15,671	11,628	16,383	19,544
FORESTRY & FISHERIES	285	87	103	37	43
MINING	3,658	1,362	1,667	1,551	1,443
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	854	918	1,229	1,188	1,145
CONTRACT CONSTRUCTION	33,118	51,828	45,758	75,587	86,308
MANUFACTURING	146,549	189,518	187,508	268,047	278,685
FOOD & KINDRED PRODUCTS	29,672	37,656	43,313	52,089	53,131
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	14,857	16,798	15,415	18,395	18,679
LUMBER PRODUCTS & FURNITURE	2,383	1,424	1,830	1,729	1,904
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	5,634	7,971	8,672	9,979	10,545
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		7,047	7,424	11,756	16,529
ELECTRICAL MACHINERY & SUPPLIES		21,032	25,672	38,369	42,461
TOTAL MACHINERY (1950 ONLY)	(D)				
MOTOR VEHICLES & EQUIPMENT	339	350	300	5,313	7,035
TRANS. EQUIP., EXCL. MTR. VEHS.	760	9,569	6,421	18,139	19,586
OTHER MANUFACTURING	12,822	18,895	20,684	28,862	28,438
TRANS., COMM. & PUBLIC UTILITIES	77,784	81,146	81,659	99,877	108,441
RAILROAD TRANSPORTATION	48,276	40,575	35,324	30,093	29,888
TRUCKING & WAREHOUSING	6,387	9,689	12,051	26,620	29,959
OTHER TRANSPORTATION & SERVICES	5,003	5,802	5,563	6,028	8,573
COMMUNICATIONS	14,099	18,814	20,444	25,915	27,687
UTILITIES (ELEC.,GAS, SANITARY)	4,019	6,266	8,279	11,223	12,334
WHOLESALE & RETAIL TRADE	94,975	133,255	135,909	174,659	184,460
FINANCE, INSURANCE & REAL ESTATE	23,286	37,641	39,459	56,749	60,289
SERVICES	60,889	90,127	98,982	145,168	153,726
LODGING PLACES & PERSONAL SERV.	11,400	11,544	13,199	18,722	18,981
BUSINESS & REPAIR SERVICES	8,804	12,219	12,999	19,622	21,647
AMUSEMENT & RECREATION SERVICES	3,410	4,271	4,473	4,947	5,231
PRIVATE HOUSEHOLDS	6,431	6,430	6,116	4,488	4,344
PROFESSIONAL SERVICES	30,844	55,659	62,195	97,389	103,522
GOVERNMENT	107,966	183,377	218,957	291,358	313,906
CIVILIAN GOVERNMENT	93,591	168,434	200,952	281,321	298,948
FEDERAL GOVERNMENT	51,845	90,579	110,449	92,077	94,326
STATE & LOCAL GOVERNMENT	41,746	77,856	90,503	189,244	204,623
ARMED FORCES	14,376	14,943	18,005	10,036	14,957

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-60
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-1, HARRISBURG, PA. SMSA, 1980-2020, SERIES C

16-1 HARRISBURG, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	486,207	562,281	642,072	735,294	841,778
PER CAPITA INCOME (1967$)	4,944	6,490	8,835	11,743	15,528
PER CAPITA INCOME RELATIVE (US=1.00)	1.04	1.05	1.07	1.08	1.09
TOTAL EMPLOYMENT	206,504	237,206	278,262	321,895	369,296
EMPLOYMENT/POPULATION RATIO	.42	.42	.43	.44	.44
EARNINGS PER WORKER (1967$)	9,503	12,428	16,299	21,233	27,806
EARNINGS PER WORKER RELATIVE(US=1.00)	1.01	1.02	1.03	1.04	1.05
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	2,403,869	3,649,201	5,672,984	8,634,741	13,071,443
TOTAL EARNINGS	1,962,402	2,948,036	4,535,317	6,834,783	10,268,495
AGRICULTURE, FORESTRY & FISHERIES	17,485	18,448	21,721	28,251	37,887
AGRICULTURE	17,440	18,392	21,648	28,157	37,770
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	1,696	2,000	2,473	3,048	3,838
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	1,444	1,730	2,176	2,724	3,492
CONTRACT CONSTRUCTION	139,154	205,534	311,128	462,033	681,650
MANUFACTURING	419,606	589,464	855,046	1,227,022	1,773,639
FOOD & KINDRED PRODUCTS	74,882	98,631	133,009	176,835	237,472
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	23,036	27,254	33,433	41,065	51,634
LUMBER PRODUCTS & FURNITURE	2,667	3,327	4,289	5,519	7,260
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	15,312	20,649	28,808	39,929	56,022
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	23,845	37,717	60,615	94,903	147,279
ELECTRICAL MACHINERY & SUPPLIES	72,184	113,276	180,002	277,540	425,469
MOTOR VEHICLES & EQUIPMENT	10,107	14,069	20,235	28,481	40,349
TRANS. EQUIP., EXCL. MTR. VEHS.	38,418	59,642	94,091	145,093	221,938
OTHER MANUFACTURING	48,147	70,753	106,375	156,739	229,971
TRANS., COMM. & PUBLIC UTILITIES	154,872	219,625	321,580	466,554	679,830
RAILROAD TRANSPORTATION	37,035	42,491	49,194	55,178	61,779
TRUCKING & WAREHOUSING	46,889	71,932	112,230	170,753	256,764
OTHER TRANSPORTATION & SERVICES	11,906	18,049	27,984	43,619	67,711
COMMUNICATIONS	40,821	60,468	91,986	137,481	205,246
UTILITIES (ELEC., GAS, SANITARY)	18,222	26,686	40,186	59,524	88,330
WHOLESALE & RETAIL TRADE	294,402	441,434	681,030	1,030,077	1,555,721
FINANCE, INSURANCE & REAL ESTATE	97,084	149,848	236,362	364,766	560,485
SERVICES	277,493	444,180	717,661	1,123,557	1,733,054
LODGING PLACES & PERSONAL SERV.	32,337	48,399	74,237	111,632	167,298
BUSINESS & REPAIR SERVICES	37,722	60,423	97,821	154,334	240,204
AMUSEMENT & RECREATION SERVICES	8,633	13,021	20,084	30,510	45,939
PRIVATE HOUSEHOLDS	6,229	7,954	10,261	12,930	16,414
PROFESSIONAL SERVICES	192,570	314,383	515,259	814,150	1,263,199
GOVERNMENT	560,611	877,502	1,388,314	2,129,475	3,242,390
CIVILIAN GOVERNMENT	545,022	857,465	1,362,486	2,096,273	3,199,475
FEDERAL GOVERNMENT	135,192	175,779	231,475	294,624	368,061
STATE & LOCAL GOVERNMENT	409,830	681,686	1,131,012	1,801,649	2,831,414
ARMED FORCES	15,589	20,037	25,827	33,202	42,915

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-61
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 16-2, LANCASTER, PA. SMSA, 1950-1969

16-2 LANCASTER, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	234,918	276,260	284,500	313,122	315,699
PER CAPITA INCOME (1967$)	2,200	2,478	2,600	3,094	3,237
PER CAPITA INCOME RELATIVE (US=1.00)	1.07	1.02	1.01	.93	.94
TOTAL EMPLOYMENT	97,629	113,364			
EMPLOYMENT/POPULATION RATIO	.42	.41			
EARNINGS PER WORKER (1967$)	4,450	5,130			
EARNINGS PER WORKER RELATIVE(US=1.00)	.99	.96			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	516,894	684,605	739,746	968,740	1,022,063
TOTAL EARNINGS	434,411	581,528	622,158	809,784	854,980
AGRICULTURE, FORESTRY & FISHERIES	66,521	53,112	46,565	47,763	56,669
AGRICULTURE	66,482	52,979	46,447	47,712	56,620
FORESTRY & FISHERIES	39	133	118	51	49
MINING	1,474	1,822	2,171	2,743	2,791
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	24,475	30,999	32,631	46,708	52,304
MANUFACTURING	176,073	266,245	293,709	378,572	396,044
FOOD & KINDRED PRODUCTS	16,816	22,583	23,194	27,677	28,736
TEXTILE MILL PRODUCTS	44,405	9,339	8,615	11,984	13,469
APPAREL & OTHER FABRIC PRODUCTS	10,551	20,147	22,854	25,497	27,017
LUMBER PRODUCTS & FURNITURE	1,819	5,596	4,682	8,352	9,956
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	6,400	12,030	12,302	19,557	21,316
CHEMICALS & ALLIED PRODUCTS	1,715	5,086	5,366	9,091	10,478
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	5,030	10,163	15,328	23,042	23,268
FABRICATED METALS & ORDNANCE	15,238	26,981	27,532	44,206	41,256
MACHINERY, EXCLUDING ELECTRICAL		31,737	36,213	41,275	44,763
ELECTRICAL MACHINERY & SUPPLIES		31,359	37,332	48,455	45,923
TOTAL MACHINERY (1950 ONLY)	30,604				
MOTOR VEHICLES & EQUIPMENT	7	98	121	799	823
TRANS. EQUIP., EXCL. MTR. VEHS.	505	2,848	2,031	7,018	9,083
OTHER MANUFACTURING	39,623	84,903	94,484	106,768	114,893
TRANS., COMM. & PUBLIC UTILITIES	19,970	28,609	33,951	41,228	42,048
RAILROAD TRANSPORTATION	4,656	4,768	4,131	3,328	3,193
TRUCKING & WAREHOUSING	6,184	10,029	13,407	17,280	17,234
OTHER TRANSPORTATION & SERVICES	1,951	1,989	1,952	2,833	3,180
COMMUNICATIONS	2,487	5,066	5,878	7,208	7,597
UTILITIES (ELEC.,GAS, SANITARY)	4,692	6,757	8,583	10,579	10,844
WHOLESALE & RETAIL TRADE	68,849	92,883	88,719	115,551	120,524
FINANCE, INSURANCE & REAL ESTATE	7,328	12,714	14,615	19,853	20,108
SERVICES	33,402	52,804	60,825	87,534	90,671
LODGING PLACES & PERSONAL SERV.	4,408	5,010	7,250	11,979	11,928
BUSINESS & REPAIR SERVICES	3,109	5,845	7,613	12,221	12,796
AMUSEMENT & RECREATION SERVICES	1,822	2,026	1,991	2,485	2,405
PRIVATE HOUSEHOLDS	6,743	7,397	7,258	4,842	4,688
PROFESSIONAL SERVICES	17,322	32,526	36,713	56,007	58,854
GOVERNMENT	36,320	42,340	48,973	69,833	73,821
CIVILIAN GOVERNMENT	34,678	39,554	46,229	66,445	70,199
FEDERAL GOVERNMENT	12,964	14,196	14,448	11,336	11,706
STATE & LOCAL GOVERNMENT	21,714	25,359	31,781	55,109	58,493
ARMED FORCES	1,642	2,786	2,744	3,388	3,622

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-62
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-2, LANCASTER, PA. SMSA, 1980-2020, SERIES C

16-2 LANCASTER, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	360,283	412,821	467,776	532,362	606,577
PER CAPITA INCOME (1967$)	4,728	6,203	8,441	11,216	14,827
PER CAPITA INCOME RELATIVE (US=1.00)	.99	1.01	1.02	1.03	1.04
TOTAL EMPLOYMENT	151,837	170,965	197,255	225,150	255,666
EMPLOYMENT/POPULATION RATIO	.42	.41	.42	.42	.42
EARNINGS PER WORKER (1967$)	9,003	11,798	15,533	20,340	26,724
EARNINGS PER WORKER RELATIVE(US=1.00)	.96	.97	.98	.99	1.01
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,703,528	2,560,742	3,948,490	5,970,712	8,993,945
TOTAL EARNINGS	1,366,996	2,017,118	3,063,992	4,579,489	6,832,472
AGRICULTURE, FORESTRY & FISHERIES	51,471	54,293	63,915	83,125	111,489
AGRICULTURE	51,403	54,208	63,808	82,991	111,326
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	3,305	3,975	5,008	6,283	8,063
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	79,661	114,363	168,881	245,554	356,124
MANUFACTURING	614,865	883,053	1,303,481	1,895,699	2,762,796
FOOD & KINDRED PRODUCTS	39,268	50,443	66,519	86,661	114,241
TEXTILE MILL PRODUCTS	15,586	18,666	23,098	28,412	35,511
APPAREL & OTHER FABRIC PRODUCTS	38,016	50,440	68,546	91,900	123,920
LUMBER PRODUCTS & FURNITURE	14,076	19,744	28,292	39,878	56,474
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	32,409	46,033	67,229	96,840	140,052
CHEMICALS & ALLIED PRODUCTS	15,074	22,002	32,676	47,552	68,547
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	29,514	37,077	47,376	59,298	74,745
FABRICATED METALS & ORDNANCE	79,602	124,833	198,992	309,738	477,777
MACHINERY, EXCLUDING ELECTRICAL	69,587	98,411	143,181	205,327	295,235
ELECTRICAL MACHINERY & SUPPLIES	90,270	140,754	222,441	341,413	521,541
MOTOR VEHICLES & EQUIPMENT	960	1,423	2,152	3,146	4,585
TRANS. EQUIP., EXCL. MTR. VEHS.	15,792	25,180	40,589	63,654	98,581
OTHER MANUFACTURING	166,162	235,128	342,470	491,811	706,372
TRANS., COMM. & PUBLIC UTILITIES	66,046	94,524	139,189	202,391	294,499
RAILROAD TRANSPORTATION	5,265	6,850	8,877	10,998	13,466
TRUCKING & WAREHOUSING	27,325	39,023	57,356	83,089	120,129
OTHER TRANSPORTATION & SERVICES	5,484	8,534	13,536	21,498	33,865
COMMUNICATIONS	11,980	18,366	28,764	44,024	66,927
UTILITIES (ELEC.,GAS, SANITARY)	15,993	21,752	30,661	42,781	60,113
WHOLESALE & RETAIL TRADE	204,826	311,693	487,268	745,850	1,138,818
FINANCE, INSURANCE & REAL ESTATE	34,577	53,360	84,155	129,850	199,501
SERVICES	173,598	283,355	466,057	741,011	1,157,283
LODGING PLACES & PERSONAL SERV.	21,015	31,878	49,445	75,012	113,173
BUSINESS & REPAIR SERVICES	25,646	43,146	72,882	119,100	190,508
AMUSEMENT & RECREATION SERVICES	4,408	6,724	10,465	16,016	24,245
PRIVATE HOUSEHOLDS	6,254	7,649	9,514	11,626	14,390
PROFESSIONAL SERVICES	116,276	193,957	323,751	519,256	814,967
GOVERNMENT	138,647	218,503	346,040	529,727	803,899
CIVILIAN GOVERNMENT	133,511	211,902	337,531	518,787	789,760
FEDERAL GOVERNMENT	18,632	25,977	36,245	48,318	62,501
STATE & LOCAL GOVERNMENT	114,879	185,925	301,286	470,469	727,259
ARMED FORCES	5,136	6,601	8,508	10,940	14,140

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-63
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 16-3, YORK, PA. SMSA, 1950-1969

16-3 YORK, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	247,146	288,054	297,898	323,344	325,710
PER CAPITA INCOME (1967$)	2,163	2,404	2,462	3,196	3,394
PER CAPITA INCOME RELATIVE (US=1.00)	1.05	.98	.95	.96	.99
TOTAL EMPLOYMENT	103,284	115,929			
EMPLOYMENT/POPULATION RATIO	.42	.40			
EARNINGS PER WORKER (1967$)	4,256	4,798			
EARNINGS PER WORKER RELATIVE(US=1.00)	.95	.90			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	534,680	692,417	733,570	1,033,291	1,105,453
TOTAL EARNINGS	439,599	556,229	578,567	843,901	905,789
AGRICULTURE, FORESTRY & FISHERIES	35,805	25,677	19,867	27,140	34,012
AGRICULTURE	35,762	25,609	19,815	27,122	33,990
FORESTRY & FISHERIES	43	68	51	19	22
MINING	(D)	(D)	(D)	(D)	(D)
METAL	55	0	33	0	0
COAL	98	0	0	485	33
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	23,998	33,130	34,783	69,772	79,486
MANUFACTURING	204,954	266,578	270,392	394,425	420,778
FOOD & KINDRED PRODUCTS	19,279	22,985	26,485	30,695	32,437
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	13,770	16,741	20,026	24,438	24,102
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	37,082				
MOTOR VEHICLES & EQUIPMENT	4,404	4,778	2,545	2,341	3,411
TRANS. EQUIP., EXCL. MTR. VEHS.	1	181	154	879	1,260
OTHER MANUFACTURING	41,449	41,011	44,229	56,448	56,638
TRANS., COMM. & PUBLIC UTILITIES	20,519	30,687	35,543	46,384	48,736
RAILROAD TRANSPORTATION	5,862	5,711	4,934	4,545	4,525
TRUCKING & WAREHOUSING	9,092	15,904	16,656	23,133	24,263
OTHER TRANSPORTATION & SERVICES	1,050	908	1,474	2,065	2,315
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	57,196	82,681	86,534	120,441	128,828
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	32,817	52,490	57,026	82,808	87,907
LODGING PLACES & PERSONAL SERV.	6,588	7,593	8,232	11,527	12,400
BUSINESS & REPAIR SERVICES	3,661	6,045	7,119	12,212	13,030
AMUSEMENT & RECREATION SERVICES	2,229	2,473	2,591	3,312	3,406
PRIVATE HOUSEHOLDS	4,897	6,361	6,121	4,145	4,012
PROFESSIONAL SERVICES	15,442	30,019	32,971	51,614	54,858
GOVERNMENT	51,950	49,171	56,159	79,777	84,180
CIVILIAN GOVERNMENT	38,449	45,437	52,504	75,330	79,423
FEDERAL GOVERNMENT	12,591	22,319	18,774	15,100	14,914
STATE & LOCAL GOVERNMENT	25,858	23,117	33,730	60,231	64,509
ARMED FORCES	13,502	3,733	3,655	4,446	4,757

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-64
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-3, YORK, PA. SMSA, 1980-2020, SERIES C

16-3 YORK, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	385,095	445,061	507,929	581,416	665,378
PER CAPITA INCOME (1967$)	4,591	6,018	8,183	10,867	14,360
PER CAPITA INCOME RELATIVE (US=1.00)	.96	.98	.99	1.00	1.01
TOTAL EMPLOYMENT	164,609	189,646	223,014	258,481	296,986
EMPLOYMENT/POPULATION RATIO	.43	.43	.44	.44	.45
EARNINGS PER WORKER (1967$)	8,716	11,338	14,842	19,356	25,378
EARNINGS PER WORKER RELATIVE(US=1.00)	.93	.93	.94	.95	.96
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,768,020	2,678,300	4,156,553	6,317,991	9,554,826
TOTAL EARNINGS	1,434,698	2,150,135	3,310,027	5,003,056	7,536,835
AGRICULTURE, FORESTRY & FISHERIES	27,211	28,700	33,784	43,942	58,942
AGRICULTURE	27,192	28,677	33,755	43,904	58,893
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
METAL	(S)	(S)	(S)	(S)	(S)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	120,109	187,675	298,774	464,357	714,179
MANUFACTURING	631,688	903,829	1,331,947	1,936,884	2,824,366
FOOD & KINDRED PRODUCTS	42,677	54,462	71,398	92,522	121,378
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	33,887	43,958	58,664	77,591	103,675
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	5,605	7,330	9,983	13,420	18,341
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	88,043	124,222	180,470	258,618	370,845
TRANS., COMM. & PUBLIC UTILITIES	73,754	105,933	156,447	228,157	333,200
RAILROAD TRANSPORTATION	6,760	8,655	10,932	13,120	15,445
TRUCKING & WAREHOUSING	35,811	50,698	73,993	106,700	154,059
OTHER TRANSPORTATION & SERVICES	4,658	7,717	12,872	21,260	34,473
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	218,293	338,534	537,208	831,453	1,278,532
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	164,064	268,792	443,581	707,293	1,107,010
LODGING PLACES & PERSONAL SERV.	19,351	28,570	43,315	64,490	95,861
BUSINESS & REPAIR SERVICES	25,559	43,051	72,788	119,039	190,508
AMUSEMENT & RECREATION SERVICES	5,901	8,948	13,862	21,134	31,902
PRIVATE HOUSEHOLDS	5,663	7,163	9,172	11,490	14,519
PROFESSIONAL SERVICES	107,590	181,060	304,445	491,139	774,220
GOVERNMENT	161,584	259,582	419,872	656,409	1,016,062
CIVILIAN GOVERNMENT	154,755	250,806	408,558	641,865	997,263
FEDERAL GOVERNMENT	21,504	27,285	35,133	43,751	53,459
STATE & LOCAL GOVERNMENT	133,251	223,521	373,424	598,115	943,803
ARMED FORCES	6,829	8,776	11,314	14,543	18,799

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-65
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 16-4, ALTOONA, PA. SMSA, 1950-1969

16-4 ALTOONA, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	139,633	136,235	139,347	136,234	135,488
PER CAPITA INCOME (1967$)	1,778	2,033	2,079	2,718	2,881
PER CAPITA INCOME RELATIVE (US=1.00)	.86	.83	.80	.82	.84
TOTAL EMPLOYMENT	47,628	46,255			
EMPLOYMENT/POPULATION RATIO	.34	.34			
EARNINGS PER WORKER (1967$)	4,231	4,843			
EARNINGS PER WORKER RELATIVE(US=1.00)	.94	.90			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	248,305	276,904	289,637	370,230	390,305
TOTAL EARNINGS	201,503	224,012	230,304	289,536	308,431
AGRICULTURE, FORESTRY & FISHERIES	4,315	3,475	2,534	4,098	4,570
AGRICULTURE	4,282	3,458	2,521	4,092	4,564
FORESTRY & FISHERIES	33	17	13	6	6
MINING	2,329	3,002	2,476	369	377
COAL	2,081	1,341	952	65	40
NONMETALLIC, EXCEPT FUELS	248	1,661	1,524	304	337
CONTRACT CONSTRUCTION	8,292	7,347	8,036	15,994	18,497
MANUFACTURING	31,469	58,678	66,121	91,689	99,374
FOOD & KINDRED PRODUCTS	4,686	8,131	8,607	8,884	8,827
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	1,606	2,142	2,965	5,177	5,137
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	7,075	13,309	16,096	15,019	15,381
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	989	968	345	364	359
PETROLEUM REFINING	0	0	162	452	618
PRIMARY METALS	146	786	687	2,421	2,346
FABRICATED METALS & ORDNANCE	1,021	4,186	4,219	5,189	5,095
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	(D)				
MOTOR VEHICLES & EQUIPMENT	51	602	564	968	1,027
TRANS. EQUIP., EXCL. MTR. VEHS.	0	0	4	3,417	4,111
OTHER MANUFACTURING	6,239	11,218	10,337	16,354	17,019
TRANS., COMM. & PUBLIC UTILITIES	83,210	65,199	58,836	53,593	56,135
RAILROAD TRANSPORTATION	74,661	54,119	46,996	36,360	38,008
TRUCKING & WAREHOUSING	3,649	5,475	5,557	7,317	7,611
OTHER TRANSPORTATION & SERVICES	367	290	297	575	721
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	32,173	36,805	37,473	45,042	46,619
FINANCE, INSURANCE & REAL ESTATE	3,697	6,251	6,267	7,940	7,870
SERVICES	16,140	23,267	25,273	37,545	39,806
LODGING PLACES & PERSONAL SERV.	3,712	3,642	3,604	4,147	4,006
BUSINESS & REPAIR SERVICES	973	1,200	1,985	3,946	4,222
AMUSEMENT & RECREATION SERVICES	1,340	1,062	756	1,033	1,018
PRIVATE HOUSEHOLDS	2,277	2,736	2,599	1,779	1,723
PROFESSIONAL SERVICES	7,838	14,627	16,329	26,641	28,836
GOVERNMENT	19,877	19,988	23,289	33,264	35,184
CIVILIAN GOVERNMENT	18,856	18,477	21,805	31,574	33,388
FEDERAL GOVERNMENT	3,511	4,608	5,454	6,351	6,176
STATE & LOCAL GOVERNMENT	15,345	13,869	16,351	25,223	27,213
ARMED FORCES	1,021	1,511	1,484	1,690	1,796

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-66
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-4, ALTOONA, PA. SMSA, 1980-2020, SERIES C

16-4 ALTOONA, PENNSYLVANIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	152,713	170,785	189,513	211,960	238,298
PER CAPITA INCOME (1967$)	4,151	5,455	7,435	9,896	13,098
PER CAPITA INCOME RELATIVE (US=1.00)	.87	.88	.90	.91	.92
TOTAL EMPLOYMENT	57,606	62,859	70,567	78,715	87,804
EMPLOYMENT/POPULATION RATIO	.38	.37	.37	.37	.37
EARNINGS PER WORKER (1967$)	8,304	11,050	14,744	19,518	25,860
EARNINGS PER WORKER RELATIVE(US=1.00)	.88	.91	.93	.95	.97
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	633,843	931,562	1,409,118	2,097,458	3,121,135
TOTAL EARNINGS	478,361	694,573	1,040,433	1,536,349	2,270,608
AGRICULTURE, FORESTRY & FISHERIES	5,171	5,455	6,424	8,354	11,205
AGRICULTURE	5,163	5,445	6,409	8,336	11,182
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(S)	(S)	(S)	(S)	(S)
COAL	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(S)	(S)	(S)	(S)	(S)
CONTRACT CONSTRUCTION	19,526	25,084	33,506	44,442	59,139
MANUFACTURING	158,366	234,248	355,390	529,426	787,002
FOOD & KINDRED PRODUCTS	14,913	20,316	28,239	38,583	53,123
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	8,976	12,881	18,563	25,991	36,144
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	24,752	35,776	53,209	78,062	114,871
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(S)	(S)	(S)	(S)	(S)
PETROLEUM REFINING	778	1,151	1,707	2,459	3,563
PRIMARY METALS	3,089	3,881	4,960	6,209	7,823
FABRICATED METALS & ORDNANCE	11,481	20,200	35,258	58,851	95,555
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	1,682	2,199	2,995	4,026	5,502
TRANS. EQUIP., EXCL. MTR. VEHS.	7,228	11,306	17,946	27,807	42,681
OTHER MANUFACTURING	28,086	42,053	64,176	95,645	141,274
TRANS., COMM. & PUBLIC UTILITIES	71,916	90,931	119,009	155,138	206,021
RAILROAD TRANSPORTATION	44,502	50,871	58,706	65,665	73,363
TRUCKING & WAREHOUSING	11,603	16,572	24,373	35,379	51,353
OTHER TRANSPORTATION & SERVICES	948	1,483	2,364	3,770	5,961
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC., GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	72,447	102,873	151,161	218,770	317,381
FINANCE, INSURANCE & REAL ESTATE	13,227	19,177	28,595	41,939	61,531
SERVICES	77,408	130,626	221,726	363,109	583,297
LODGING PLACES & PERSONAL SERV.	6,250	8,611	12,261	17,287	24,602
BUSINESS & REPAIR SERVICES	8,053	13,409	22,454	36,438	57,980
AMUSEMENT & RECREATION SERVICES	1,831	2,805	4,383	6,728	10,209
PRIVATE HOUSEHOLDS	2,399	3,020	3,852	4,818	6,090
PROFESSIONAL SERVICES	58,875	102,780	178,776	297,839	484,416
GOVERNMENT	59,893	85,699	124,032	174,433	244,096
CIVILIAN GOVERNMENT	57,270	82,328	119,686	168,846	236,874
FEDERAL GOVERNMENT	10,406	14,479	20,170	26,857	34,723
STATE & LOCAL GOVERNMENT	46,864	67,848	99,516	141,989	202,151
ARMED FORCES	2,623	3,372	4,346	5,588	7,223

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-67
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 16-5, RESIDUAL NON-SMSA AREA, 1950-1969

16-5 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	488,174	500,387	519,054	525,542	525,730
PER CAPITA INCOME (1967$)	1,697	1,942	2,028	2,802	2,935
PER CAPITA INCOME RELATIVE (US=1.00)	.82	.80	.79	.84	.86
TOTAL EMPLOYMENT	172,328	181,989			
EMPLOYMENT/POPULATION RATIO	.35	.36			
EARNINGS PER WORKER (1967$)	3,797	4,065			
EARNINGS PER WORKER RELATIVE(US=1.00)	.84	.76			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	828,580	971,752	1,052,567	1,472,655	1,543,139
TOTAL EARNINGS	654,413	739,837	784,927	1,083,084	1,143,697
AGRICULTURE, FORESTRY & FISHERIES	65,944	53,236	37,347	50,511	59,422
AGRICULTURE	65,288	52,657	36,716	50,338	59,228
FORESTRY & FISHERIES	656	580	632	175	197
MINING	(D)	(D)	(D)	(D)	(D)
METAL	(D)	(D)	(D)	(D)	(D)
COAL	30,906	9,704	6,990	5,347	5,191
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	5,662	8,896	7,315	5,364	4,444
CONTRACT CONSTRUCTION	27,786	30,410	31,400	50,254	56,410
MANUFACTURING	212,462	253,459	285,962	419,123	439,889
FOOD & KINDRED PRODUCTS	26,222	28,028	28,407	38,131	41,075
TEXTILE MILL PRODUCTS	18,738	9,299	13,974	20,015	20,057
APPAREL & OTHER FABRIC PRODUCTS	36,210	50,226	54,163	67,149	66,717
LUMBER PRODUCTS & FURNITURE	12,108	13,977	15,349	27,092	29,023
PAPER & ALLIED PRODUCTS	3,347	5,149	7,013	11,033	12,326
PRINTING & PUBLISHING	4,661	5,849	7,229	11,746	12,841
CHEMICALS & ALLIED PRODUCTS	14,679	25,256	24,362	31,421	30,627
PETROLEUM REFINING	10	60	111	1,006	1,155
PRIMARY METALS	37,518	41,427	43,589	58,307	58,571
FABRICATED METALS & ORDNANCE	4,474	6,489	6,441	13,537	15,405
MACHINERY, EXCLUDING ELECTRICAL		27,815	33,462	57,251	63,054
ELECTRICAL MACHINERY & SUPPLIES		55	2,576	8,569	9,621
TOTAL MACHINERY (1950 ONLY)	24,748				
MOTOR VEHICLES & EQUIPMENT	0	600	703	3,878	5,057
TRANS. EQUIP., EXCL. MTR. VEHS.	5,454	13,595	13,592	22,128	26,532
OTHER MANUFACTURING	24,288	25,636	34,992	47,865	47,830
TRANS., COMM. & PUBLIC UTILITIES	42,154	53,850	54,786	64,288	68,570
RAILROAD TRANSPORTATION	23,020	17,768	15,469	13,317	13,526
TRUCKING & WAREHOUSING	8,212	19,893	20,352	25,227	28,730
OTHER TRANSPORTATION & SERVICES	1,411	1,494	1,628	2,413	2,695
COMMUNICATIONS	4,469	6,945	7,363	9,905	9,728
UTILITIES (ELEC.,GAS, SANITARY)	5,041	7,755	9,976	13,425	13,889
WHOLESALE & RETAIL TRADE	96,520	115,506	118,340	144,145	148,528
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	54,910	70,761	77,237	113,990	118,598
LODGING PLACES & PERSONAL SERV.	8,765	10,510	9,715	13,735	13,367
BUSINESS & REPAIR SERVICES	3,451	4,861	6,164	12,378	13,793
AMUSEMENT & RECREATION SERVICES	3,850	2,864	3,342	3,198	3,110
PRIVATE HOUSEHOLDS	6,915	9,393	9,117	5,681	5,498
PROFESSIONAL SERVICES	31,933	43,133	48,897	78,999	82,829
GOVERNMENT	104,032	119,913	141,069	198,657	211,241
CIVILIAN GOVERNMENT	99,843	111,322	131,948	190,896	201,214
FEDERAL GOVERNMENT	43,880	48,783	58,263	76,026	77,575
STATE & LOCAL GOVERNMENT	55,962	62,539	73,686	114,871	123,640
ARMED FORCES	4,188	8,592	9,120	7,761	10,026

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-68
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-5, RESIDUAL NON-SMSA AREA, 1980-2020, SERIES C

16-5 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	592,000	666,706	744,369	836,803	944,494
PER CAPITA INCOME (1967$)	3,967	5,174	7,003	9,263	12,401
PER CAPITA INCOME RELATIVE (US=1.00)	.83	.84	.84	.85	.86
TOTAL EMPLOYMENT	231,963	255,754	289,780	325,795	365,667
EMPLOYMENT/POPULATION RATIO	.39	.38	.39	.39	.39
EARNINGS PER WORKER (1967$)	7,754	10,241	13,543	17,766	23,338
EARNINGS PER WORKER RELATIVE(US=1.00)	.83	.84	.86	.87	.88
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	2,348,434	3,449,852	5,212,893	7,751,220	11,523,973
TOTAL EARNINGS	1,798,616	2,619,121	3,924,381	5,788,122	8,534,043
AGRICULTURE, FORESTRY & FISHERIES	52,998	56,655	66,688	86,718	116,479
AGRICULTURE	52,830	56,458	66,456	86,437	115,948
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
METAL	(D)	(D)	(D)	(D)	(D)
COAL	6,861	7,086	7,578	8,076	8,619
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	6,919	8,581	11,098	14,212	18,532
CONTRACT CONSTRUCTION	85,817	120,351	174,036	248,044	352,648
MANUFACTURING	644,782	895,877	1,284,144	1,821,224	2,597,327
FOOD & KINDRED PRODUCTS	49,128	61,600	79,513	101,650	131,813
TEXTILE MILL PRODUCTS	26,190	31,398	38,886	47,858	59,842
APPAREL & OTHER FABRIC PRODUCTS	98,969	131,135	178,173	239,010	322,584
LUMBER PRODUCTS & FURNITURE	43,725	60,747	86,360	120,988	170,572
PAPER & ALLIED PRODUCTS	19,989	30,684	48,008	73,391	111,452
PRINTING & PUBLISHING	18,298	25,941	37,830	54,445	78,720
CHEMICALS & ALLIED PRODUCTS	46,929	64,374	90,890	127,087	177,807
PETROLEUM REFINING	1,736	2,557	3,777	5,424	7,846
PRIMARY METALS	68,372	81,477	99,639	120,392	147,757
FABRICATED METALS & ORDNANCE	26,750	44,310	73,927	119,358	189,293
MACHINERY, EXCLUDING ELECTRICAL	100,395	147,270	221,437	326,618	480,216
ELECTRICAL MACHINERY & SUPPLIES	16,978	27,481	44,811	70,544	109,868
MOTOR VEHICLES & EQUIPMENT	5,580	7,876	11,459	16,272	23,406
TRANS. EQUIP., EXCL. MTR. VEHS.	44,597	65,790	99,314	147,618	219,352
OTHER MANUFACTURING	77,146	113,238	170,121	250,570	366,998
TRANS., COMM. & PUBLIC UTILITIES	98,036	136,932	197,293	281,497	403,907
RAILROAD TRANSPORTATION	17,319	20,711	24,894	28,871	33,295
TRUCKING & WAREHOUSING	40,015	57,098	83,920	121,739	176,616
OTHER TRANSPORTATION & SERVICES	4,702	7,396	11,841	18,945	30,009
COMMUNICATIONS	15,446	22,816	34,633	51,664	77,025
UTILITIES (ELEC., GAS, SANITARY)	20,553	28,910	42,005	60,279	86,962
WHOLESALE & RETAIL TRADE	254,608	378,595	579,727	871,007	1,307,365
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	213,127	342,237	556,230	877,885	1,367,932
LODGING PLACES & PERSONAL SERV.	23,227	33,367	49,389	71,989	104,995
BUSINESS & REPAIR SERVICES	23,458	40,731	70,872	119,163	196,008
AMUSEMENT & RECREATION SERVICES	5,115	7,217	10,495	15,160	21,911
PRIVATE HOUSEHOLDS	7,784	9,859	12,685	15,906	20,155
PROFESSIONAL SERVICES	153,543	251,053	412,810	655,667	1,024,862
GOVERNMENT	385,240	599,130	936,406	1,414,133	2,115,459
CIVILIAN GOVERNMENT	372,628	582,400	914,270	1,385,066	2,077,279
FEDERAL GOVERNMENT	130,142	186,001	264,934	359,077	470,938
STATE & LOCAL GOVERNMENT	242,486	396,399	649,331	1,025,989	1,606,342
ARMED FORCES	12,612	16,730	22,136	29,067	38,180

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

16-5 Residual Non-SMSA Area

Franklin and Lebanon Counties

Population and Total Personal Income, Selected Historic and Projected Years, 1950-2020

	1950	1959	1962	1968	1969	1980	1990	2000	2010	2020
Population, July 1	157,800	177,700	188,300	197,500	198,700	228,747	264,663	298,474	338,688	386,193
Total Personal Income (In Thousands of 1967$)	304,869	374,066	413,713	569,565	600,459	923,068	1,353,080	2,062,223	3,085,902	4,611,686

TABLE 3-69
SUB-SEGMENT AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 17C - BALTIMORE, MD.

17-1 Baltimore, Md. SMSA*
- Anne Arundel, Maryland
- Baltimore County, Maryland
- Baltimore City, Maryland
- Carroll, Maryland
- Harford, Maryland
- Howard, Maryland

17-2 Non-SMSA Area, Maryland*
- Caroline, Maryland
- Dorchester, Maryland
- Kent, Maryland
- Queen Annes, Maryland
- Somerset, Maryland
- Talbot, Maryland
- Wicomico, Maryland
- Worcester, Maryland

17-3 Non-SMSA Area, Virginia*
- Accomack, Virginia
- Northampton, Virginia

17-4 Non-SMSA Area, Delaware*
- Kent, Delaware
- Sussex, Delaware

17-5 Residual Non-SMSA Area
- Frederick, Maryland
- Washington, Maryland

*Included in Estuary Area as defined.

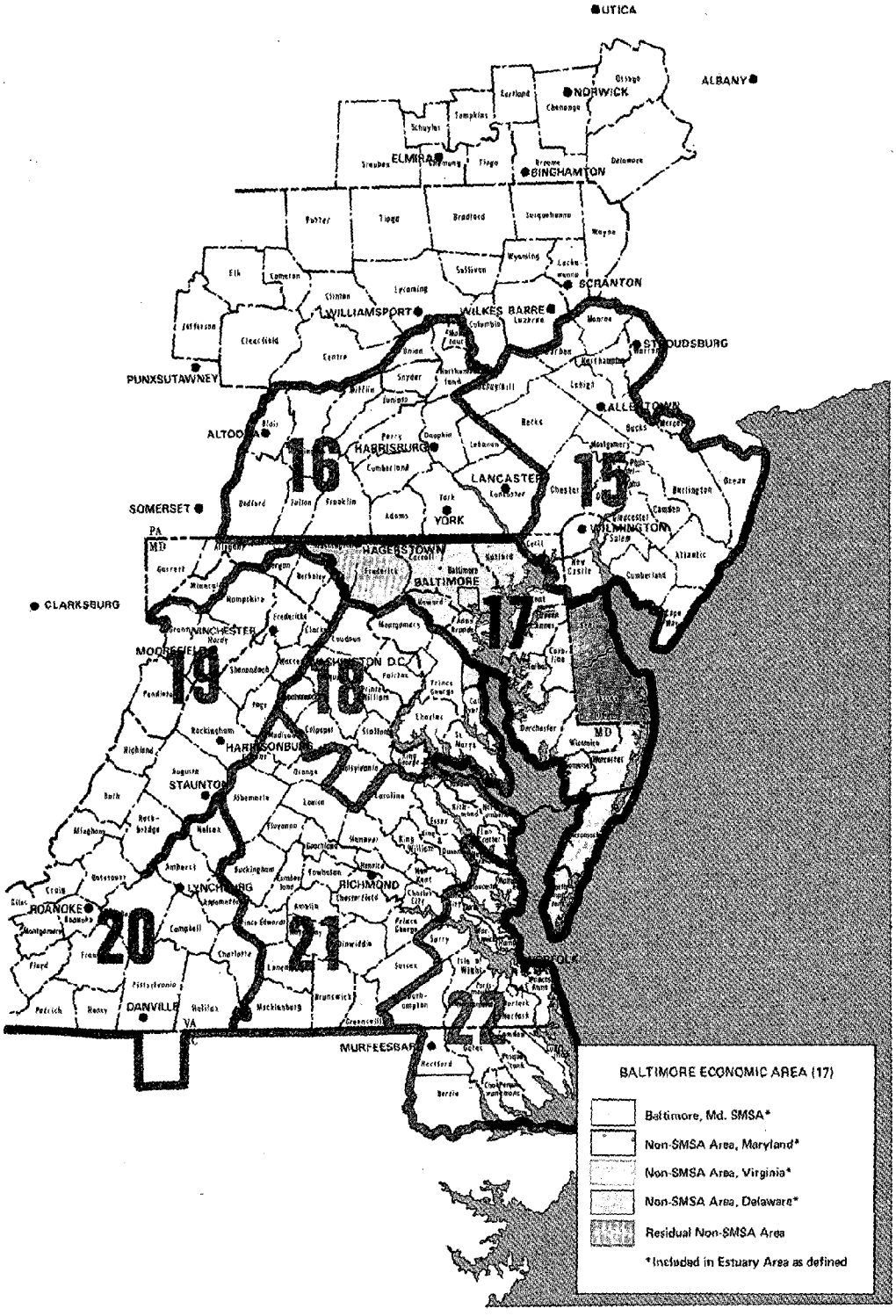
UTICA
ALBANY
NORWICH
ELMIRA
BINGHAMTON
SCRANTON
WILLIAMSPORT
WILKES BARRE
STROUDSBURG
PUNXSUTAWNEY
ALTOONA
HARRISBURG
LANCASTER
ALLENTOWN
SOMERSET
YORK
WILMINGTON
PA
MD
HAGERSTOWN
BALTIMORE
CLARKSBURG
WINCHESTER
MOORESFIELD
WASHINGTON D.C.
HARRISONBURG
STAUNTON
LYNCHBURG
RICHMOND
ROANOKE
DANVILLE
VA
NORFOLK
MURFEESBORO
16
15
17
19
18
20
21
22
BALTIMORE ECONOMIC AREA (17)
Baltimore, Md. SMSA*
Non-SMSA Area, Maryland*
Non-SMSA Area, Virginia*
Non-SMSA Area, Delaware*
Residual Non-SMSA Area
*Included in Estuary Area as defined

FIGURE 3-24

TABLE 3-70
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 17, BALTIMORE, MD., 1950-1969

ECONOMIC AREA 17
BALTIMORE, MARYLAND

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	1,935,904	2,322,477	2,426,745	2,638,525	2,650,547
PER CAPITA INCOME (1967$)	2,203	2,485	2,672	3,453	3,592
PER CAPITA INCOME RELATIVE (US=1.00)	1.07	1.02	1.03	1.04	1.05
TOTAL EMPLOYMENT	774,807	897,875			
EMPLOYMENT/POPULATION RATIO	.40	.39			
EARNINGS PER WORKER (1967$)	4,560	5,377			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.01	1.00			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	4,264,446	5,771,239	6,483,238	9,111,089	9,519,946
TOTAL EARNINGS	3,532,958	4,828,125	5,386,657	7,498,757	7,831,425
AGRICULTURE, FORESTRY & FISHERIES	215,089	155,480	165,455	167,659	226,521
AGRICULTURE	202,601	147,566	159,884	164,284	224,531
FORESTRY & FISHERIES	12,487	7,915	5,571	3,374	1,991
MINING	7,653	8,570	8,904	3,715	3,900
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	55	0	44	239	265
NONMETALLIC, EXCEPT FUELS	7,043	8,570	8,848	2,795	2,414
CONTRACT CONSTRUCTION	274,936	301,289	333,413	417,633	449,916
MANUFACTURING	1,041,783	1,522,961	1,627,660	2,033,732	2,070,193
FOOD & KINDRED PRODUCTS	164,551	188,260	205,592	246,450	258,969
TEXTILE MILL PRODUCTS	46,923	32,576	13,841	15,048	15,044
APPAREL & OTHER FABRIC PRODUCTS	94,178	100,178	113,044	130,934	132,264
LUMBER PRODUCTS & FURNITURE	38,457	46,613	44,354	51,241	52,169
PAPER & ALLIED PRODUCTS	19,103	35,953	36,364	48,235	49,699
PRINTING & PUBLISHING	52,015	77,484	88,733	114,034	120,948
CHEMICALS & ALLIED PRODUCTS	47,987	73,886	109,491	140,291	147,118
PETROLEUM REFINING	13,772	8,776	7,665	10,672	8,369
PRIMARY METALS	152,716	273,375	311,238	382,974	402,045
FABRICATED METALS & ORDNANCE	71,083	128,778	249,183	232,817	197,373
MACHINERY, EXCLUDING ELECTRICAL		72,725	82,592	123,731	131,833
ELECTRICAL MACHINERY & SUPPLIES		86,623	89,536	118,091	104,022
TOTAL MACHINERY (1950 ONLY)	94,351				
MOTOR VEHICLES & EQUIPMENT	31,291	28,845	52,933	106,789	107,587
TRANS. EQUIP., EXCL. MTR. VEHS.	113,415	243,687	91,714	131,614	161,972
OTHER MANUFACTURING	101,943	125,206	131,381	180,809	180,782
TRANS., COMM. & PUBLIC UTILITIES	339,167	438,038	458,959	555,792	580,401
RAILROAD TRANSPORTATION	115,003	111,993	101,918	93,181	96,499
TRUCKING & WAREHOUSING	41,562	84,363	95,062	133,957	137,849
OTHER TRANSPORTATION & SERVICES	92,127	102,255	108,941	122,698	125,845
COMMUNICATIONS	40,586	70,869	75,725	112,607	122,787
UTILITIES (ELEC.,GAS, SANITARY)	49,895	68,559	77,316	93,345	97,422
WHOLESALE & RETAIL TRADE	623,976	793,676	868,523	1,188,532	1,238,039
FINANCE, INSURANCE & REAL ESTATE	144,453	227,549	242,619	329,287	342,720
SERVICES	386,662	516,494	632,135	951,819	996,986
LODGING PLACES & PERSONAL SERV.	58,808	70,281	74,891	108,003	107,656
BUSINESS & REPAIR SERVICES	40,494	76,493	110,196	201,902	216,622
AMUSEMENT & RECREATION SERVICES	22,145	28,191	31,109	43,337	40,483
PRIVATE HOUSEHOLDS	92,771	79,339	82,247	72,534	70,224
PROFESSIONAL SERVICES	172,441	262,190	333,690	526,041	562,001
GOVERNMENT	499,237	864,072	1,048,994	1,850,589	1,922,749
CIVILIAN GOVERNMENT	374,214	659,021	835,833	1,513,425	1,596,588
FEDERAL GOVERNMENT	196,993	307,242	388,140	781,774	802,844
STATE & LOCAL GOVERNMENT	177,221	351,776	447,692	731,655	793,741
ARMED FORCES	125,022	205,051	213,158	337,165	326,162

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-71
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 17, BALTIMORE, MD., 1980-2020, SERIES C

ECONOMIC AREA 17
BALTIMORE, MARYLAND

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	3,107,305	3,581,718	4,032,969	4,518,150	5,009,752
PER CAPITA INCOME (1967$)	4,925	6,365	8,563	11,262	14,765
PER CAPITA INCOME RELATIVE (US=1.00)	1.03	1.03	1.03	1.03	1.04
TOTAL EMPLOYMENT	1,261,674	1,420,657	1,626,029	1,826,189	2,021,095
EMPLOYMENT/POPULATION RATIO	.41	.40	.40	.40	.40
EARNINGS PER WORKER (1967$)	9,750	12,733	16,658	21,637	28,186
EARNINGS PER WORKER RELATIVE(US=1.00)	1.04	1.05	1.05	1.06	1.06
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	15,303,056	22,799,291	34,535,858	50,882,334	73,969,427
TOTAL EARNINGS	12,301,012	18,088,588	27,086,316	39,513,367	56,967,305
AGRICULTURE, FORESTRY & FISHERIES	189,020	199,995	235,856	306,138	409,171
AGRICULTURE	182,617	192,238	226,278	294,309	394,793
FORESTRY & FISHERIES	6,403	7,758	9,578	11,829	14,378
MINING	4,982	5,844	7,157	8,777	10,951
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	3,193	3,592	4,259	5,068	6,184
CONTRACT CONSTRUCTION	683,213	1,010,868	1,521,145	2,228,013	3,211,457
MANUFACTURING	2,971,025	4,062,507	5,720,761	7,957,372	11,126,280
FOOD & KINDRED PRODUCTS	345,780	447,643	593,982	779,565	1,034,043
TEXTILE MILL PRODUCTS	16,395	17,488	19,351	21,726	24,898
APPAREL & OTHER FABRIC PRODUCTS	186,678	241,837	322,155	424,920	565,965
LUMBER PRODUCTS & FURNITURE	71,130	91,611	121,756	160,510	214,832
PAPER & ALLIED PRODUCTS	78,931	116,253	175,726	261,329	388,042
PRINTING & PUBLISHING	179,390	254,505	368,252	520,344	730,839
CHEMICALS & ALLIED PRODUCTS	236,488	349,081	527,379	781,245	1,150,987
PETROLEUM REFINING	10,102	12,039	14,756	17,920	22,273
PRIMARY METALS	520,179	654,355	838,749	1,056,515	1,345,060
FABRICATED METALS & ORDNANCE	297,094	421,263	613,918	880,390	1,256,964
MACHINERY, EXCLUDING ELECTRICAL	207,347	307,676	467,042	695,394	1,031,111
ELECTRICAL MACHINERY & SUPPLIES	171,982	262,890	408,352	616,289	925,314
MOTOR VEHICLES & EQUIPMENT	184,251	262,747	384,695	554,346	799,647
TRANS. EQUIP., EXCL. MTR. VEHS.	204,329	265,168	357,090	477,242	642,649
OTHER MANUFACTURING	260,948	357,953	507,558	709,636	994,057
TRANS., COMM. & PUBLIC UTILITIES	829,510	1,151,648	1,640,268	2,294,420	3,198,125
RAILROAD TRANSPORTATION	114,007	126,695	140,988	151,174	160,281
TRUCKING & WAREHOUSING	208,146	298,007	436,030	623,886	885,042
OTHER TRANSPORTATION & SERVICES	187,792	267,415	388,953	553,044	779,597
COMMUNICATIONS	179,457	265,411	398,887	582,860	841,117
UTILITIES (ELEC.,GAS, SANITARY)	140,109	194,121	275,411	383,456	532,088
WHOLESALE & RETAIL TRADE	2,006,261	2,975,787	4,502,748	6,623,231	9,622,446
FINANCE, INSURANCE & REAL ESTATE	545,767	806,461	1,211,815	1,772,886	2,564,096
SERVICES	1,771,398	2,813,560	4,484,801	6,872,756	10,281,609
LODGING PLACES & PERSONAL SERV.	177,762	260,730	389,220	566,152	813,982
BUSINESS & REPAIR SERVICES	372,164	589,504	934,867	1,423,555	2,114,677
AMUSEMENT & RECREATION SERVICES	66,995	96,757	142,403	203,938	288,220
PRIVATE HOUSEHOLDS	91,652	108,465	129,780	151,281	176,424
PROFESSIONAL SERVICES	1,062,826	1,758,105	2,888,532	4,527,831	6,888,306
GOVERNMENT	3,299,835	5,061,918	7,761,763	11,449,773	16,543,170
CIVILIAN GOVERNMENT	2,899,654	4,542,705	7,087,161	10,576,817	15,409,126
FEDERAL GOVERNMENT	1,367,751	2,025,210	2,988,070	4,211,912	5,737,844
STATE & LOCAL GOVERNMENT	1,531,903	2,517,495	4,099,091	6,364,905	9,671,282
ARMED FORCES	400,181	519,213	674,602	872,956	1,134,043

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-72
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 17-1, BALTIMORE, MD. SMSA, 1950-1969

17-1 BALTIMORE, MARYLAND SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	1,464,644	1,783,566	1,857,058	2,043,447	2,054,490
PER CAPITA INCOME (1967$)	2,335	2,588	2,772	3,495	3,608
PER CAPITA INCOME RELATIVE (US=1.00)	1.13	1.06	1.07	1.05	1.05
TOTAL EMPLOYMENT	590,943	693,471			
EMPLOYMENT/POPULATION RATIO	.40	.39			
EARNINGS PER WORKER (1967$)	4,797	5,611			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.07	1.05			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	3,419,501	4,615,805	5,147,033	7,141,907	7,412,263
TOTAL EARNINGS	2,834,585	3,891,359	4,333,464	6,014,398	6,242,733
AGRICULTURE, FORESTRY & FISHERIES	42,665	-26,269	22,992	27,360	33,364
AGRICULTURE	41,670	25,651	22,568	27,144	33,196
FORESTRY & FISHERIES	995	619	424	219	168
MINING	7,045	7,654	7,966	2,520	2,903
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	6,490	7,654	7,954	1,733	1,508
CONTRACT CONSTRUCTION	240,201	253,841	284,624	345,967	371,691
MANUFACTURING	878,052	1,295,695	1,376,335	1,661,074	1,682,112
FOOD & KINDRED PRODUCTS	115,897	127,920	140,847	149,829	155,551
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	71,547	70,793	75,796	89,118	90,508
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	18,699	35,791	36,113	46,021	47,373
PRINTING & PUBLISHING	49,024	68,685	78,532	97,900	103,107
CHEMICALS & ALLIED PRODUCTS	35,560	59,157	81,072	94,954	100,957
PETROLEUM REFINING	13,772	8,412	7,124	9,916	7,542
PRIMARY METALS	151,643	272,437	310,116	381,308	399,513
FABRICATED METALS & ORDNANCE	66,593	121,499	240,561	220,537	184,018
MACHINERY, EXCLUDING ELECTRICAL		62,487	70,992	105,590	110,454
ELECTRICAL MACHINERY & SUPPLIES		83,460	83,355	111,953	98,239
TOTAL MACHINERY (1950 ONLY)	84,029				
MOTOR VEHICLES & EQUIPMENT	31,233	28,591	35,133	71,116	67,566
TRANS. EQUIP., EXCL. MTR. VEHS.	99,651	201,673	69,049	93,770	129,082
OTHER MANUFACTURING	81,607	100,121	107,143	141,758	140,528
TRANS., COMM. & PUBLIC UTILITIES	285,109	366,662	383,003	467,548	490,003
RAILROAD TRANSPORTATION	(D)	(D)	(D)	(D)	(D)
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	(D)	(D)	(D)	(D)	(D)
COMMUNICATIONS	34,593	60,007	63,034	92,681	101,718
UTILITIES (ELEC.,GAS, SANITARY)	40,868	56,790	62,604	73,926	77,413
WHOLESALE & RETAIL TRADE	499,599	642,188	707,030	976,704	1,016,454
FINANCE, INSURANCE & REAL ESTATE	131,554	204,422	219,460	297,137	308,887
SERVICES	324,789	425,059	522,022	789,129	826,946
LODGING PLACES & PERSONAL SERV.	46,642	55,795	58,957	85,235	84,881
BUSINESS & REPAIR SERVICES	37,242	69,957	100,916	181,066	194,886
AMUSEMENT & RECREATION SERVICES	19,161	24,407	26,707	36,967	34,191
PRIVATE HOUSEHOLDS	78,002	64,910	66,990	61,006	59,062
PROFESSIONAL SERVICES	143,741	209,989	268,451	424,854	453,926
GOVERNMENT	425,571	669,569	810,031	1,446,959	1,510,373
CIVILIAN GOVERNMENT	313,003	510,378	647,555	1,185,530	1,253,217
FEDERAL GOVERNMENT	176,034	254,452	320,962	661,177	680,401
STATE & LOCAL GOVERNMENT	136,968	255,924	326,593	524,355	572,818
ARMED FORCES	112,569	159,192	162,474	261,430	257,156

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-73
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 17-1, BALTIMORE, MD. SMSA, 1980-2020, SERIES C

17-1 BALTIMORE, MARYLAND SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	2,398,380	2,761,428	3,106,320	3,477,221	3,853,362
PER CAPITA INCOME (1967$)	5,019	6,477	8,702	11,432	14,975
PER CAPITA INCOME RELATIVE (US=1.00)	1.05	1.05	1.05	1.05	1.05
TOTAL EMPLOYMENT	967,374	1,090,001	1,248,031	1,402,136	1,552,776
EMPLOYMENT/POPULATION RATIO	.40	.39	.40	.40	.40
EARNINGS PER WORKER (1967$)	10,080	13,084	16,991	21,863	28,122
EARNINGS PER WORKER RELATIVE(US=1.00)	1.07	1.08	1.07	1.07	1.06
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	12,037,764	17,886,321	27,031,000	39,749,872	57,702,598
TOTAL EARNINGS	9,751,366	14,261,483	21,205,048	30,655,572	43,667,492
AGRICULTURE, FORESTRY & FISHERIES	30,202	32,065	37,726	48,975	65,570
AGRICULTURE	29,787	31,613	37,211	48,399	64,923
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	3,574	4,231	5,219	6,439	8,069
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	2,024	2,276	2,699	3,211	3,918
CONTRACT CONSTRUCTION	553,464	804,578	1,191,164	1,718,902	2,444,521
MANUFACTURING	2,376,009	3,219,482	4,495,839	6,206,531	8,623,212
FOOD & KINDRED PRODUCTS	200,287	250,149	321,551	410,699	532,810
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	122,828	155,497	203,082	263,540	346,379
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	74,646	109,313	164,426	243,546	360,530
PRINTING & PUBLISHING	148,450	205,754	291,802	405,532	562,254
CHEMICALS & ALLIED PRODUCTS	154,261	222,284	328,933	479,014	696,454
PETROLEUM REFINING	9,386	11,186	13,712	16,649	20,694
PRIMARY METALS	518,036	651,780	835,573	1,052,640	1,340,261
FABRICATED METALS & ORDNANCE	282,038	399,925	582,759	835,610	1,193,015
MACHINERY, EXCLUDING ELECTRICAL	173,988	255,610	384,577	568,177	836,914
ELECTRICAL MACHINERY & SUPPLIES	160,999	244,223	376,389	563,525	839,267
MOTOR VEHICLES & EQUIPMENT	116,945	162,851	233,297	329,617	467,236
TRANS. EQUIP., EXCL. MTR. VEHS.	145,962	187,374	249,990	331,557	443,844
OTHER MANUFACTURING	205,183	284,199	406,282	571,965	805,858
TRANS., COMM. & PUBLIC UTILITIES	695,114	962,493	1,366,696	1,906,021	2,649,783
RAILROAD TRANSPORTATION	(D)	(D)	(D)	(D)	(D)
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	(D)	(D)	(D)	(D)	(D)
COMMUNICATIONS	146,721	215,307	321,411	467,079	671,242
UTILITIES (ELEC.,GAS, SANITARY)	109,926	151,359	213,609	296,135	409,590
WHOLESALE & RETAIL TRADE	1,619,356	2,385,390	3,585,705	5,241,305	7,569,272
FINANCE, INSURANCE & REAL ESTATE	487,997	717,634	1,073,402	1,563,514	2,251,748
SERVICES	1,440,473	2,255,390	3,531,107	5,273,625	7,552,393
LODGING PLACES & PERSONAL SERV.	139,792	204,655	304,972	442,911	635,910
BUSINESS & REPAIR SERVICES	324,030	495,760	743,620	1,023,027	1,217,528
AMUSEMENT & RECREATION SERVICES	56,884	81,672	119,608	170,605	240,368
PRIVATE HOUSEHOLDS	76,384	90,097	107,490	125,019	145,579
PROFESSIONAL SERVICES	843,382	1,383,205	2,255,416	3,512,063	5,313,009
GOVERNMENT	2,545,177	3,880,221	5,918,196	8,690,261	12,502,922
CIVILIAN GOVERNMENT	2,238,954	3,485,613	5,408,457	8,033,767	11,653,147
FEDERAL GOVERNMENT	1,145,827	1,686,683	2,476,131	3,476,263	4,721,965
STATE & LOCAL GOVERNMENT	1,093,127	1,798,930	2,932,327	4,557,505	6,931,181
ARMED FORCES	306,223	394,608	509,739	656,493	849,775

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-74
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 17-2, MARYLAND NON-SMSA AREA, 1950-1969

17-2 MARYLAND NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	178,174	192,978	203,016	205,279	204,683
PER CAPITA INCOME (1967$)	1,609	1,928	2,219	3,205	3,495
PER CAPITA INCOME RELATIVE (US=1.00)	.78	.79	.86	.97	1.02
TOTAL EMPLOYMENT	71,760	73,837			
EMPLOYMENT/POPULATION RATIO	.40	.38			
EARNINGS PER WORKER (1967$)	3,453	4,231			
EARNINGS PER WORKER RELATIVE(US=1.00)	.77	.79			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	286,656	372,074	450,421	657,913	715,366
TOTAL EARNINGS	247,798	312,395	366,168	491,975	542,992
AGRICULTURE, FORESTRY & FISHERIES	68,485	54,026	64,028	60,989	88,120
AGRICULTURE	61,179	49,311	60,705	58,926	87,189
FORESTRY & FISHERIES	7,305	4,713	3,323	2,060	931
MINING	246	354	351	438	432
METAL	(D)	(D)	(D)	(D)	(D)
COAL	0	0	0	6	2
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	13,586	15,251	16,204	25,668	27,497
MANUFACTURING	50,095	68,094	79,766	100,633	106,170
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	5,787	6,129	5,566	5,452	5,582
PAPER & ALLIED PRODUCTS	0	29	55	939	1,027
PRINTING & PUBLISHING	1,164	3,392	4,989	8,519	9,506
CHEMICALS & ALLIED PRODUCTS	497	991	1,320	1,298	1,297
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		2,459	4,152	7,037	6,575
ELECTRICAL MACHINERY & SUPPLIES		1,068	1,570	1,687	1,908
TOTAL MACHINERY (1950 ONLY)	1,464				
MOTOR VEHICLES & EQUIPMENT	(D)	(D)	(D)	(D)	(D)
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	4,201	3,433	2,298	5,197	5,205
TRANS., COMM. & PUBLIC UTILITIES	13,138	18,281	22,486	29,277	30,523
RAILROAD TRANSPORTATION	(D)	(D)	(D)	(D)	(D)
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	(D)	(D)	(D)	(D)	(D)
COMMUNICATIONS	1,905	3,682	4,708	7,442	7,927
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	49,146	59,160	62,985	82,444	86,907
FINANCE, INSURANCE & REAL ESTATE	4,606	8,156	9,052	12,277	13,121
SERVICES	25,749	33,162	41,204	57,918	61,121
LODGING PLACES & PERSONAL SERV.	5,423	6,478	7,309	9,986	10,202
BUSINESS & REPAIR SERVICES	1,102	2,160	2,930	6,714	7,415
AMUSEMENT & RECREATION SERVICES	1,617	2,157	2,093	2,405	2,155
PRIVATE HOUSEHOLDS	6,116	4,981	5,504	4,075	3,945
PROFESSIONAL SERVICES	11,490	17,387	23,366	34,738	37,401
GOVERNMENT	22,747	55,912	70,097	122,334	129,104
CIVILIAN GOVERNMENT	20,515	52,401	66,561	118,189	124,986
FEDERAL GOVERNMENT	4,454	10,029	13,734	26,297	27,165
STATE & LOCAL GOVERNMENT	16,061	42,372	52,826	91,893	97,818
ARMED FORCES	2,231	3,510	3,537	4,145	4,120

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-75
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 17-2, MARYLAND NON-SMSA AREA, 1980-2020, SERIES C

17-2 MARYLAND NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	244,504	282,047	317,776	356,174	395,008
PER CAPITA INCOME (1967$)	4,474	5,869	7,994	10,619	14,031
PER CAPITA INCOME RELATIVE (US=1.00)	.94	.95	.96	.97	.98
TOTAL EMPLOYMENT	103,524	115,800	131,809	147,385	162,609
EMPLOYMENT/POPULATION RATIO	.42	.41	.41	.41	.41
EARNINGS PER WORKER (1967$)	8,307	11,196	15,250	20,853	29,119
EARNINGS PER WORKER RELATIVE(US=1.00)	.88	.92	.96	1.02	1.10
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,093,885	1,655,353	2,540,146	3,782,044	5,542,528
TOTAL EARNINGS	859,968	1,296,457	2,010,149	3,073,439	4,735,082
AGRICULTURE, FORESTRY & FISHERIES	72,827	78,157	92,486	119,944	159,848
AGRICULTURE	68,005	72,174	84,954	110,496	148,222
FORESTRY & FISHERIES	4,822	5,984	7,531	9,448	11,626
MINING	(S)	(S)	(S)	(S)	(S)
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	45,756	70,982	110,762	166,600	244,359
MANUFACTURING	154,074	213,734	304,052	426,341	600,418
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	6,923	8,271	10,266	12,754	16,274
PAPER & ALLIED PRODUCTS	2,201	3,886	6,703	10,971	17,423
PRINTING & PUBLISHING	15,714	24,329	37,627	55,890	81,365
CHEMICALS & ALLIED PRODUCTS	2,038	2,869	4,160	5,956	8,534
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	13,174	20,884	33,392	51,725	78,888
ELECTRICAL MACHINERY & SUPPLIES	4,017	7,527	14,016	24,884	43,262
MOTOR VEHICLES & EQUIPMENT	(D)	(D)	(D)	(D)	(D)
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	6,697	8,608	11,499	15,265	20,518
TRANS., COMM. & PUBLIC UTILITIES	47,323	69,583	104,154	151,788	218,452
RAILROAD TRANSPORTATION	(D)	(D)	(D)	(D)	(D)
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	(D)	(D)	(D)	(D)	(D)
COMMUNICATIONS	13,015	20,291	31,820	48,067	71,111
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	150,545	228,791	353,704	530,303	783,743
FINANCE, INSURANCE & REAL ESTATE	23,040	36,229	57,532	88,454	133,855
SERVICES	122,173	209,288	367,828	646,262	1,185,337
LODGING PLACES & PERSONAL SERV.	17,583	26,262	39,841	58,804	85,683
BUSINESS & REPAIR SERVICES	17,994	39,355	90,171	210,769	519,528
AMUSEMENT & RECREATION SERVICES	3,767	5,583	8,392	12,220	17,487
PRIVATE HOUSEHOLDS	5,124	6,059	7,248	8,446	9,848
PROFESSIONAL SERVICES	77,704	132,028	222,176	356,023	552,790
GOVERNMENT	243,657	389,022	618,803	942,726	1,407,987
CIVILIAN GOVERNMENT	238,673	382,599	610,506	932,040	1,394,156
FEDERAL GOVERNMENT	41,577	58,242	81,790	110,296	144,424
STATE & LOCAL GOVERNMENT	197,096	324,356	528,716	821,744	1,249,732
ARMED FORCES	4,984	6,423	8,297	10,686	13,831

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-76
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 17-3, VIRGINIA NON-SMSA AREA, 1950-1969

17-3 VIRGINIA NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	51,075	47,410	48,184	44,811	43,912
PER CAPITA INCOME (1967$)	1,455	1,283	1,524	2,271	2,406
PER CAPITA INCOME RELATIVE (US=1.00)	.70	.53	.59	.68	.70
TOTAL EMPLOYMENT	19,467	16,558			
EMPLOYMENT/POPULATION RATIO	.38	.35			
EARNINGS PER WORKER (1967$)	3,376	3,011			
EARNINGS PER WORKER RELATIVE(US=1.00)	.75	.56			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	74,323	60,834	73,447	101,765	105,662
TOTAL EARNINGS	65,715	49,850	58,906	77,511	80,477
AGRICULTURE, FORESTRY & FISHERIES	28,727	15,373	18,345	21,258	22,101
AGRICULTURE	25,400	13,293	16,863	20,454	21,396
FORESTRY & FISHERIES	3,327	2,082	1,482	803	705
MINING	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	964	1,188	1,181	2,259	2,061
MANUFACTURING	5,553	6,205	7,467	11,138	11,915
FOOD & KINDRED PRODUCTS	2,874	3,803	4,055	7,531	8,542
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	1,950	1,035	924	954	983
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	0	0	75	33	34
FABRICATED METALS & ORDNANCE	0	0	0	14	17
ELECTRICAL MACHINERY & SUPPLIES		0	0	4	3
TOTAL MACHINERY (1950 ONLY)	0				
MOTOR VEHICLES & EQUIPMENT	0	0	0	5	5
TRANS. EQUIP., EXCL. MTR. VEHS.	0	0	0	5	2
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	3,848	3,169	3,909	4,093	4,085
RAILROAD TRANSPORTATION	1,892	1,209	1,201	1,194	1,161
TRUCKING & WAREHOUSING	762	429	945	878	901
OTHER TRANSPORTATION & SERVICES	0	0	0	57	42
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	9,266	8,368	9,458	10,600	10,843
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	4,281	4,656	5,601	8,559	8,567
LODGING PLACES & PERSONAL SERV.	826	815	710	1,288	1,236
BUSINESS & REPAIR SERVICES	73	95	251	944	1,229
AMUSEMENT & RECREATION SERVICES	77	73	117	157	142
PRIVATE HOUSEHOLDS	1,545	1,290	1,355	1,025	993
PROFESSIONAL SERVICES	1,760	2,383	3,100	5,144	4,970
GOVERNMENT	12,143	9,753	11,671	17,886	19,137
CIVILIAN GOVERNMENT	6,967	7,755	9,798	15,485	16,707
FEDERAL GOVERNMENT	4,487	3,413	4,607	8,582	9,546
STATE & LOCAL GOVERNMENT	2,480	4,341	5,190	6,903	7,161
ARMED FORCES	5,176	1,997	1,873	2,401	2,430

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-77
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 17-3, VIRGINIA NON-SMSA AREA, 1980-2020, SERIES C

17-3 VIRGINIA NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	45,117	46,920	47,992	49,292	50,849
PER CAPITA INCOME (1967$)	3,123	4,179	5,781	7,803	10,463
PER CAPITA INCOME RELATIVE (US=1.00)	.66	.68	.70	.72	.73
TOTAL EMPLOYMENT	18,783	19,276	20,390	21,172	21,914
EMPLOYMENT/POPULATION RATIO	.42	.41	.42	.43	.42
EARNINGS PER WORKER (1967$)	6,144	8,216	11,111	15,173	21,044
EARNINGS PER WORKER RELATIVE(US=1.00)	.65	.68	.70	.74	.79
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	140,908	196,096	277,423	384,634	532,019
TOTAL EARNINGS	115,394	158,380	226,562	321,233	452,748
AGRICULTURE, FORESTRY & FISHERIES	21,346	22,347	26,276	34,020	45,401
AGRICULTURE	20,505	21,407	25,198	32,773	43,963
FORESTRY & FISHERIES	($)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	3,412	5,291	8,292	12,597	18,738
MANUFACTURING	16,326	24,070	35,866	52,140	75,659
FOOD & KINDRED PRODUCTS	10,307	15,398	23,204	34,131	50,207
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	1,269	1,550	1,964	2,486	3,222
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(S)	(S)	(S)	(S)	(S)
FABRICATED METALS & ORDNANCE	(S)	(S)	(S)	(S)	(S)
ELECTRICAL MACHINERY & SUPPLIES	(S)	(S)	(S)	(S)	(S)
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	5,179	6,372	8,147	10,340	13,237
RAILROAD TRANSPORTATION	(S)	(S)	(S)	(S)	(S)
TRUCKING & WAREHOUSING	1,169	1,516	2,023	2,670	3,540
OTHER TRANSPORTATION & SERVICES	(S)	(S)	(S)	(S)	(S)
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	15,889	20,710	27,963	37,044	48,854
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	16,524	26,747	43,516	68,015	103,497
LODGING PLACES & PERSONAL SERV.	1,666	2,241	3,095	4,192	5,655
BUSINESS & REPAIR SERVICES	2,155	3,837	6,656	10,847	16,917
AMUSEMENT & RECREATION SERVICES	(S)	(S)	(S)	(S)	(S)
PRIVATE HOUSEHOLDS	1,294	1,458	1,670	1,874	2,110
PROFESSIONAL SERVICES	11,132	18,783	31,431	50,114	77,375
GOVERNMENT	34,252	49,434	71,674	100,389	138,155
CIVILIAN GOVERNMENT	30,540	44,738	65,705	92,813	128,494
FEDERAL GOVERNMENT	15,086	20,988	29,301	39,291	51,129
STATE & LOCAL GOVERNMENT	15,454	23,750	36,404	53,522	77,366
ARMED FORCES	3,713	4,696	5,969	7,576	9,661

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
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(S) TOO SMALL TO BE PROJECTED

TABLE 3-78
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 17-4, DELAWARE NON-SMSA AREA, 1950-1969

17-4 DELAWARE NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	100,115	137,200	145,945	158,943	160,282
PER CAPITA INCOME (1967$)	2,296	2,422	2,582	3,330	3,630
PER CAPITA INCOME RELATIVE (US=1.00)	1.11	.99	1.00	1.00	1.06
TOTAL EMPLOYMENT	39,169	53,871			
EMPLOYMENT/POPULATION RATIO	.39	.39			
EARNINGS PER WORKER (1967$)	4,471	4,665			
EARNINGS PER WORKER RELATIVE(US=1.00)	.99	.87			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	229,889	332,233	376,846	529,304	581,754
TOTAL EARNINGS	175,128	251,314	279,734	397,285	428,831
AGRICULTURE, FORESTRY & FISHERIES	52,224	40,281	43,903	37,184	59,520
AGRICULTURE	51,480	39,845	43,590	36,946	59,351
FORESTRY & FISHERIES	744	436	312	238	169
MINING	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	0	0	12	0	3
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	9,031	14,686	12,441	17,050	18,590
MANUFACTURING	43,660	51,153	67,301	114,602	120,529
FOOD & KINDRED PRODUCTS	15,739	17,234	17,356	34,871	37,604
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	8,328	10,552	14,339	15,843	15,832
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	1,108				
MOTOR VEHICLES & EQUIPMENT	0	0	0	278	294
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	9,373	18,425	15,991	18,001	17,704
RAILROAD TRANSPORTATION	2,522	2,255	1,993	1,848	1,778
TRUCKING & WAREHOUSING	3,159	3,824	4,420	6,744	5,778
OTHER TRANSPORTATION & SERVICES	1,794	6,635	3,632	1,716	1,900
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	31,963	38,108	40,671	53,296	55,655
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	10,268	20,880	22,144	33,978	36,726
LODGING PLACES & PERSONAL SERV.	1,961	2,742	2,973	4,933	4,971
BUSINESS & REPAIR SERVICES	183	1,682	1,944	4,180	4,502
AMUSEMENT & RECREATION SERVICES	541	716	1,008	2,271	2,653
PRIVATE HOUSEHOLDS	3,038	4,778	4,976	3,842	3,720
PROFESSIONAL SERVICES	4,544	10,963	11,244	18,752	20,882
GOVERNMENT	15,677	62,214	72,147	115,728	112,204
CIVILIAN GOVERNMENT	12,077	30,152	37,915	60,560	63,398
FEDERAL GOVERNMENT	2,934	11,315	13,461	19,865	19,341
STATE & LOCAL GOVERNMENT	9,144	18,837	24,455	40,695	44,056
ARMED FORCES	3,599	32,062	34,231	55,168	48,805

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TABLE 3-79
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 17-4, DELAWARE NON-SMSA AREA, 1980-2020, SERIES C

17-4 DELAWARE NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	189,615	216,536	241,917	269,274	297,079
PER CAPITA INCOME (1967$)	4,552	5,909	7,978	10,524	13,825
PER CAPITA INCOME RELATIVE (US=1.00)	.96	.96	.96	.97	.97
TOTAL EMPLOYMENT	75,400	84,258	95,684	106,753	117,395
EMPLOYMENT/POPULATION RATIO	.40	.39	.40	.40	.40
EARNINGS PER WORKER (1967$)	8,737	11,624	15,617	21,024	28,751
EARNINGS PER WORKER RELATIVE(US=1.00)	.93	.96	.99	1.03	1.08
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	863,178	1,279,444	1,930,020	2,833,881	4,107,062
TOTAL EARNINGS	658,771	979,402	1,494,335	2,244,380	3,375,220
AGRICULTURE, FORESTRY & FISHERIES	42,076	43,394	51,087	66,409	89,003
AGRICULTURE	41,760	43,022	50,639	65,864	88,352
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	31,874	50,360	79,916	122,114	181,893
MANUFACTURING	186,050	268,174	395,113	571,158	823,193
FOOD & KINDRED PRODUCTS	54,252	74,384	103,256	140,213	190,466
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	23,280	30,833	41,850	56,048	75,472
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	29,156	42,923	64,251	93,605	134,646
RAILROAD TRANSPORTATION	2,367	2,701	3,080	3,375	3,654
TRUCKING & WAREHOUSING	9,996	13,949	19,955	28,030	39,197
OTHER TRANSPORTATION & SERVICES	3,283	5,292	8,457	12,904	19,131
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	103,365	162,631	259,365	400,139	607,192
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	69,088	120,168	211,625	366,950	652,836
LODGING PLACES & PERSONAL SERV.	8,491	13,165	20,574	31,063	46,013
BUSINESS & REPAIR SERVICES	10,575	22,162	48,302	107,336	252,855
AMUSEMENT & RECREATION SERVICES	3,578	5,389	8,204	12,067	17,396
PRIVATE HOUSEHOLDS	5,588	7,212	9,241	11,350	13,757
PROFESSIONAL SERVICES	40,857	72,240	125,305	205,135	322,814
GOVERNMENT	184,840	273,360	405,002	582,530	825,655
CIVILIAN GOVERNMENT	117,425	183,926	286,635	427,072	621,437
FEDERAL GOVERNMENT	36,830	56,522	85,880	123,959	171,891
STATE & LOCAL GOVERNMENT	80,595	127,404	200,755	303,113	449,545
ARMED FORCES	67,415	89,435	118,367	155,458	204,218

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-80
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 17-5, RESIDUAL NON-SMSA AREA, 1950-1969

17-5 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	141,896	161,323	172,542	186,045	187,180
PER CAPITA INCOME (1967$)	1,791	2,419	2,524	3,656	3,766
PER CAPITA INCOME RELATIVE (US=1.00)	.87	.99	.98	1.10	1.10
TOTAL EMPLOYMENT	53,468	60,138			
EMPLOYMENT/POPULATION RATIO	.38	.37			
EARNINGS PER WORKER (1967$)	3,923	5,374			
EARNINGS PER WORKER RELATIVE(US=1.00)	.87	1.00			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	254,077	390,293	435,491	680,200	704,901
TOTAL EARNINGS	209,732	323,207	348,385	517,588	536,392
AGRICULTURE, FORESTRY & FISHERIES	22,988	19,531	16,187	20,868	23,416
AGRICULTURE	22,872	19,466	16,158	20,814	23,399
FORESTRY & FISHERIES	116	65	30	54	18
MINING	291	443	502	454	309
COAL	0	0	0	23	15
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	11,154	16,323	18,963	26,689	30,077
MANUFACTURING	64,423	101,814	96,791	146,285	149,467
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	10,655	7,135	2,626	3,421	3,605
APPAREL & OTHER FABRIC PRODUCTS	5,951	7,886	9,819	13,261	13,203
LUMBER PRODUCTS & FURNITURE	3,406	5,230	4,357	5,009	5,254
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	7,750				
MOTOR VEHICLES & EQUIPMENT	0	0	17,464	34,853	39,110
TRANS. EQUIP., EXCL. MTR. VEHS.	13,506	39,432	17,700	34,641	28,047
OTHER MANUFACTURING	13,852	19,426	17,780	20,086	21,080
TRANS., COMM. & PUBLIC UTILITIES	27,699	31,501	33,570	36,873	38,086
RAILROAD TRANSPORTATION	18,992	20,145	18,418	13,327	13,563
TRUCKING & WAREHOUSING	1,359	4,018	4,708	7,266	7,681
OTHER TRANSPORTATION & SERVICES	435	685	767	1,244	1,259
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	34,002	45,852	48,379	65,488	68,180
FINANCE, INSURANCE & REAL ESTATE	4,500	8,382	7,782	11,013	11,299
SERVICES	21,575	32,737	41,164	62,235	63,626
LODGING PLACES & PERSONAL SERV.	3,956	4,451	4,933	6,561	6,368
BUSINESS & REPAIR SERVICES	1,894	2,599	4,155	8,998	8,590
AMUSEMENT & RECREATION SERVICES	749	838	1,184	1,537	1,342
PRIVATE HOUSEHOLDS	4,070	3,380	3,422	2,586	2,504
PROFESSIONAL SERVICES	10,906	21,468	27,469	42,553	44,822
GOVERNMENT	23,099	66,624	85,048	147,682	151,931
CIVILIAN GOVERNMENT	21,652	58,335	74,004	133,661	138,280
FEDERAL GOVERNMENT	9,084	28,033	35,376	65,853	66,391
STATE & LOCAL GOVERNMENT	12,568	30,302	38,628	67,809	71,888
ARMED FORCES	1,447	8,290	11,043	14,021	13,651

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-81
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 17-5, RESIDUAL NON-SMSA AREA, 1980-2020, SERIES C

17-5 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	229,689	274,787	318,964	366,189	413,454
PER CAPITA INCOME (1967$)	5,082	6,485	8,644	11,284	14,718
PER CAPITA INCOME RELATIVE (US=1.00)	1.07	1.05	1.04	1.04	1.03
TOTAL EMPLOYMENT	96,593	111,322	130,115	148,743	166,801
EMPLOYMENT/POPULATION RATIO	.42	.41	.41	.41	.40
EARNINGS PER WORKER (1967$)	9,478	12,512	16,526	21,640	28,398
EARNINGS PER WORKER RELATIVE(US=1.00)	1.01	1.03	1.05	1.06	1.07
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,167,321	1,782,076	2,757,269	4,131,903	6,085,219
TOTAL EARNINGS	915,513	1,392,865	2,150,222	3,218,742	4,736,763
AGRICULTURE, FORESTRY & FISHERIES	22,569	24,032	28,287	36,790	49,348
AGRICULTURE	22,560	24,022	28,276	36,777	49,334
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(S)	(S)	(S)	(S)	(S)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	48,708	79,657	131,011	207,800	321,946
MANUFACTURING	238,566	337,046	489,891	701,201	1,003,999
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	3,632	3,813	4,161	4,617	5,243
APPAREL & OTHER FABRIC PRODUCTS	20,742	28,360	39,460	53,855	73,524
LUMBER PRODUCTS & FURNITURE	7,545	10,036	13,724	18,559	25,411
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	66,341	98,549	149,470	222,006	328,550
TRANS. EQUIP., EXCL. MTR. VEHS.	52,146	69,816	96,465	131,582	179,925
OTHER MANUFACTURING	29,094	37,412	50,054	66,404	88,695
TRANS., COMM. & PUBLIC UTILITIES	52,738	70,277	97,020	132,667	182,007
RAILROAD TRANSPORTATION	16,027	16,755	17,643	17,988	18,207
TRUCKING & WAREHOUSING	11,841	17,452	26,149	38,132	54,873
OTHER TRANSPORTATION & SERVICES	2,355	3,743	5,924	8,976	13,253
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	117,106	178,265	276,011	414,441	613,385
FINANCE, INSURANCE & REAL ESTATE	20,270	31,169	48,517	73,278	109,121
SERVICES	123,139	201,968	330,725	517,904	787,546
LODGING PLACES & PERSONAL SERV.	10,229	14,406	20,737	29,182	40,720
BUSINESS & REPAIR SERVICES	17,409	28,390	46,118	71,576	107,848
AMUSEMENT & RECREATION SERVICES	2,488	3,685	5,535	8,058	11,529
PRIVATE HOUSEHOLDS	3,262	3,639	4,131	4,592	5,130
PROFESSIONAL SERVICES	89,750	151,847	254,204	404,496	622,319
GOVERNMENT	291,909	469,880	748,088	1,133,867	1,668,450
CIVILIAN GOVERNMENT	274,062	445,829	715,857	1,091,125	1,611,892
FEDERAL GOVERNMENT	128,431	202,774	314,969	462,104	648,435
STATE & LOCAL GOVERNMENT	145,630	243,055	400,888	629,021	963,457
ARMED FORCES	17,848	24,051	32,231	42,743	56,558

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

THE WASHINGTON ECONOMIC AREA

The Washington, D.C.-Maryland-Virginia Economic Area (18) consists of one SMSA Estuary subsegment, two non-SMSA Estuary subsegments, and one non-SMSA non-Estuary subsegment. The county compositions of the four Washington subsegments are shown in Table 3-82 as well as Figure 3-25. Economic and demographic projections for the economic area as a whole and for its four subsegments, together with the historical data upon which the projections are based, are presented in Tables 3-83 to 3-92.

THE RICHMOND ECONOMIC AREA

The Richmond, Virginia Economic Area (21) consists of the combined Richmond, Virginia, and Petersburg-Colonial Heights, Virginia, SMSA's, located in the Estuary Area, as well as one non-SMSA Estuary subsegment and one non-SMSA non-Estuary subsegment. The county compositions of the three Richmond subsegments are shown in Table 3-93 and Figure 3-26. Economic and demographic projections for the economic area as a whole and for its three subsegments, together with the historical data upon which the projections are based, are presented in Tables 3-94 to 3-101. In addition to permit reconciliation with State planning regions, projections of population and total personal income for Greensville, Goochland, Powhatan, and Sussex Counties are also shown in Table 3-101.

THE NORFOLK-PORTSMOUTH ECONOMIC AREA

The Norfolk-Portsmouth, Virginia Economic Area (22) consists of two SMSA Estuary subsegments, one non-SMSA Estuary subsegment and one non-SMSA non-Estuary subsegment. The county compositions of the four Norfolk-Portsmouth subsegments are shown in Table 3-102 and in Figure 3-27. Economic and demographic projections for the economic area as a whole and for its four subsegments, together with the historical data upon which the projections are based, are presented in Tables 3-103 to 3-112.

TABLE 3-82
SUB-SEGMENT AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 18C - WASHINGTON, D.C.-MD.-VA.

18-1 Washington, D.C.-Md.-Va. SMSA*
- Montgomery, Maryland
- Prince Georges, Maryland
- District of Columbia
- Arlington and Alexandria, Virginia
- Fairfax County, Fairfax City, Falls Church, Virginia
- Loudoun, Virginia
- Prince William, Virginia

18-2 Non-SMSA Area, Maryland*
- Charles, Maryland
- St. Marys, Maryland
- Calvert, Maryland

18-3 Non-SMSA Area, Virginia*
- King George, Virginia
- Stafford, Virginia
- Spotsylvania-Fredericksburg, Virginia

18-4 Residual Non-SMSA Area
- Culpeper, Virginia
- Fauquier, Virginia
- Rappahannock, Virginia

*Included in Estuary Area as defined.

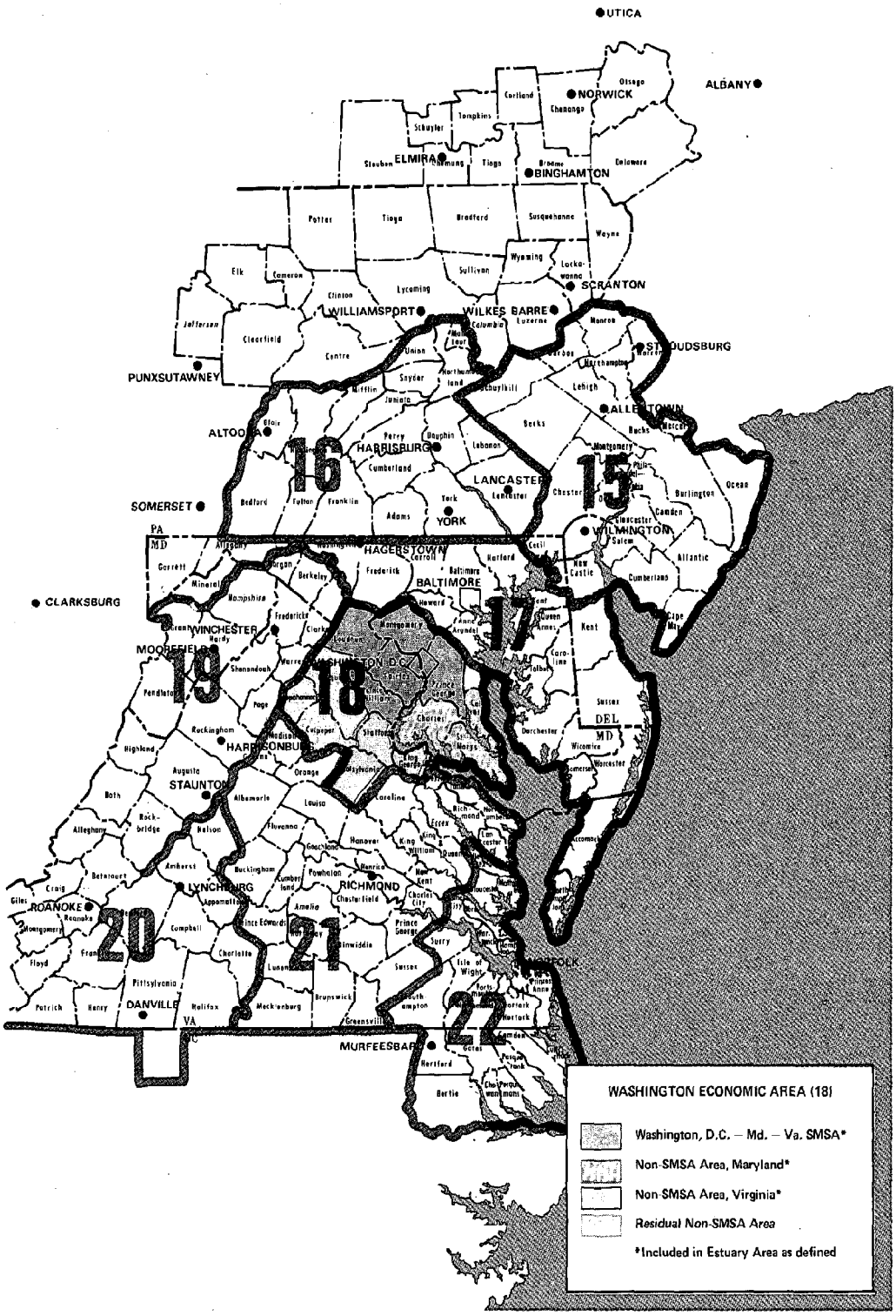
UTICA
ALBANY
NORWICK
ELMIRA
BINGHAMTON
SCRANTON
WILLIAMSPORT
WILKES BARRE
PUNXSUTAWNEY
ALTOONA
HARRISBURG
LANCASTER
YORK
SOMERSET
PA
MD
HAGERSTOWN
BALTIMORE
CLARKSBURG
WINCHESTER
MOORFIELD
HARRISONBURG
STAUNTON
LYNCHBURG
ROANOKE
DANVILLE
VA
RICHMOND
NORFOLK
MURFEESBORO
DEL
MD
16
15
17
18
19
20
21
22
WASHINGTON ECONOMIC AREA (18)
Washington, D.C. – Md. – Va. SMSA*
Non-SMSA Area, Maryland*
Non-SMSA Area, Virginia*
Residual Non-SMSA Area
*Included in Estuary Area as defined

FIGURE 3-25

TABLE 3-83
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 18, WASHINGTON, D.C.-MD.-VA., 1950-1969

ECONOMIC AREA 18
WASHINGTON, D.C.-MARYLAND-VIRGINIA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	1,661,277	2,245,420	2,415,039	2,974,545	3,035,367
PER CAPITA INCOME (1967$)	2,667	2,875	3,137	3,830	3,951
PER CAPITA INCOME RELATIVE (US=1.00)	1.29	1.18	1.21	1.15	1.15
TOTAL EMPLOYMENT	738,119	944,211			
EMPLOYMENT/POPULATION RATIO	.44	.42			
EARNINGS PER WORKER (1967$)	4,894	5,671			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.09	1.06			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	4,429,871	6,455,754	7,574,836	11,393,479	11,993,698
TOTAL EARNINGS	3,612,252	5,354,992	6,290,197	9,544,191	10,097,988
AGRICULTURE, FORESTRY & FISHERIES	80,236	58,664	65,882	65,613	70,791
AGRICULTURE	66,807	44,003	48,556	43,733	47,209
FORESTRY & FISHERIES	13,426	14,660	17,327	21,879	23,581
MINING	2,880	6,416	8,668	11,753	11,967
METAL	(D)	(D)	(D)	(D)	(D)
COAL	0	0	0	8	2
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	2,848	6,085	8,216	11,121	11,383
CONTRACT CONSTRUCTION	(D)	(D)	(D)	(D)	(D)
MANUFACTURING	165,191	264,739	310,116	421,805	438,245
FOOD & KINDRED PRODUCTS	39,216	55,045	58,491	66,079	63,840
TEXTILE MILL PRODUCTS	0	0	72	15	5
APPAREL & OTHER FABRIC PRODUCTS	2,786	2,879	4,841	6,900	7,759
LUMBER PRODUCTS & FURNITURE	9,152	10,360	10,259	15,472	16,323
PAPER & ALLIED PRODUCTS	4,024	5,499	7,638	2,865	3,696
PRINTING & PUBLISHING	69,127	89,623	104,953	157,620	166,320
CHEMICALS & ALLIED PRODUCTS	13,453	24,216	24,229	24,962	24,866
PETROLEUM REFINING	711	623	1,020	1,372	1,357
PRIMARY METALS	1,620	1,303	1,455	2,543	2,267
FABRICATED METALS & ORDNANCE	4,743	15,705	15,926	24,557	26,477
MACHINERY, EXCLUDING ELECTRICAL		10,320	11,424	15,451	17,224
ELECTRICAL MACHINERY & SUPPLIES		15,719	23,381	53,386	52,007
TOTAL MACHINERY (1950 ONLY)	4,644				
MOTOR VEHICLES & EQUIPMENT	0	98	1,643	3,230	2,684
TRANS. EQUIP., EXCL. MTR. VEHS.	6,804	12,489	10,526	10,675	12,000
OTHER MANUFACTURING	8,909	20,859	28,258	36,680	41,221
TRANS., COMM, & PUBLIC UTILITIES	241,790	343,346	363,039	528,735	552,920
RAILROAD TRANSPORTATION	57,219	47,040	45,297	38,861	38,896
TRUCKING & WAREHOUSING	21,418	27,034	34,719	55,672	60,029
OTHER TRANSPORTATION & SERVICES	70,078	133,256	122,934	169,058	173,423
COMMUNICATIONS	59,718	83,973	102,267	183,503	195,969
UTILITIES (ELEC.,GAS, SANITARY)	33,361	52,046	57,821	81,642	84,603
WHOLESALE & RETAIL TRADE	593,358	777,576	902,115	1,336,869	1,401,255
FINANCE, INSURANCE & REAL ESTATE	144,965	244,833	281,266	454,292	475,364
SERVICES	526,392	882,110	1,160,443	1,917,373	2,074,330
LODGING PLACES & PERSONAL SERV.	83,989	113,276	129,767	180,260	184,727
BUSINESS & REPAIR SERVICES	38,885	164,311	223,129	478,312	543,892
AMUSEMENT & RECREATION SERVICES	21,021	33,102	38,450	51,999	52,790
PRIVATE HOUSEHOLDS	99,365	107,124	108,546	98,927	95,786
PROFESSIONAL SERVICES	283,135	464,299	660,556	1,107,877	1,197,137
GOVERNMENT	1,610,581	2,422,154	2,765,782	4,246,765	4,452,817
CIVILIAN GOVERNMENT	1,318,819	1,994,316	2,379,644	3,556,882	3,733,970
FEDERAL GOVERNMENT	1,194,528	1,723,805	2,029,716	2,802,006	2,906,516
STATE & LOCAL GOVERNMENT	124,293	270,511	349,929	754,876	827,454
ARMED FORCES	291,763	427,839	386,139	689,882	718,847

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-84
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 18, WASHINGTON, D.C.-MD.-VA., 1980-2020, SERIES C

ECONOMIC AREA 18
WASHINGTON, D.C.-MARYLAND-VIRGINIA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	3,750,493	4,559,747	5,385,831	6,370,529	7,490,355
PER CAPITA INCOME (1967$)	5,622	7,161	9,500	12,218	15,573
PER CAPITA INCOME RELATIVE (US=1.00)	1.18	1.16	1.15	1.12	1.09
TOTAL EMPLOYMENT	1,658,848	1,959,591	2,360,246	2,790,954	3,255,553
EMPLOYMENT/POPULATION RATIO	.44	.43	.44	.44	.43
EARNINGS PER WORKER (1967$)	10,220	13,223	17,002	21,657	27,593
EARNINGS PER WORKER RELATIVE(US=1.00)	1.09	1.09	1.08	1.06	1.04
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	21,086,351	32,654,585	51,163,494	77,838,116	116,650,371
TOTAL EARNINGS	16,953,266	25,911,057	40,128,721	60,444,992	89,831,564
AGRICULTURE, FORESTRY & FISHERIES	90,127	109,665	141,299	189,848	254,953
AGRICULTURE	49,787	53,691	63,200	82,201	110,266
FORESTRY & FISHERIES	40,340	55,974	78,099	107,647	144,688
MINING	18,735	26,075	37,379	52,723	75,118
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	17,979	25,144	36,226	51,349	73,482
CONTRACT CONSTRUCTION	(D)	(D)	(D)	(D)	(D)
MANUFACTURING	716,216	1,077,294	1,655,355	2,492,792	3,741,335
FOOD & KINDRED PRODUCTS	97,291	134,103	189,800	261,444	358,160
TEXTILE MILL PRODUCTS	(S)	(S)	(S)	(S)	(S)
APPAREL & OTHER FABRIC PRODUCTS	11,858	16,498	23,304	32,484	45,245
LUMBER PRODUCTS & FURNITURE	24,280	33,134	46,343	63,982	89,340
PAPER & ALLIED PRODUCTS	5,333	7,179	10,271	14,185	19,921
PRINTING & PUBLISHING	263,167	386,005	574,640	835,320	1,204,389
CHEMICALS & ALLIED PRODUCTS	37,689	53,136	76,879	109,407	155,497
PETROLEUM REFINING	2,313	3,257	4,598	6,361	8,909
PRIMARY METALS	3,409	4,592	6,271	8,688	11,656
FABRICATED METALS & ORDNANCE	46,650	73,930	118,243	184,850	286,251
MACHINERY, EXCLUDING ELECTRICAL	27,253	40,834	62,113	92,893	138,489
ELECTRICAL MACHINERY & SUPPLIES	103,900	184,023	325,749	554,253	926,856
MOTOR VEHICLES & EQUIPMENT	3,528	5,127	7,652	11,684	17,170
TRANS. EQUIP., EXCL. MTR. VEHS.	19,019	26,220	37,151	51,817	72,977
OTHER MANUFACTURING	70,526	109,257	172,342	265,423	406,477
TRANS., COMM. & PUBLIC UTILITIES	885,269	1,318,418	2,002,005	2,976,125	4,393,744
RAILROAD TRANSPORTATION	53,810	66,783	83,394	98,734	115,892
TRUCKING & WAREHOUSING	102,040	162,980	262,912	416,650	649,455
OTHER TRANSPORTATION & SERVICES	278,509	409,590	612,713	894,687	1,294,325
COMMUNICATIONS	315,104	477,021	737,562	1,114,865	1,671,557
UTILITIES (ELEC.,GAS, SANITARY)	135,806	202,043	305,424	451,189	662,716
WHOLESALE & RETAIL TRADE	2,471,379	3,853,060	6,092,001	9,339,901	14,107,383
FINANCE, INSURANCE & REAL ESTATE	805,633	1,230,658	1,903,658	2,863,403	4,253,563
SERVICES	3,852,348	6,398,643	10,675,123	17,171,991	27,036,307
LODGING PLACES & PERSONAL SERV.	307,596	461,639	710,267	1,072,356	1,611,071
BUSINESS & REPAIR SERVICES	978,787	1,652,021	2,793,587	4,544,907	7,226,253
AMUSEMENT & RECREATION SERVICES	90,409	136,083	207,717	307,996	449,919
PRIVATE HOUSEHOLDS	133,322	163,562	201,833	241,664	289,905
PROFESSIONAL SERVICES	2,342,234	3,985,336	6,761,719	11,005,068	17,458,559
GOVERNMENT	7,103,413	10,354,037	15,234,316	21,765,031	30,652,467
CIVILIAN GOVERNMENT	6,221,055	9,209,227	13,746,887	19,840,253	28,152,017
FEDERAL GOVERNMENT	4,486,930	6,187,919	8,566,872	11,399,537	14,734,958
STATE & LOCAL GOVERNMENT	1,734,125	3,021,308	5,180,015	8,440,717	13,417,059
ARMED FORCES	882,358	1,144,809	1,487,429	1,924,778	2,500,450

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-85
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 18-1, WASHINGTON, D.C.-MD.-VA. SMSA, 1950-1969

18-1 WASHINGTON, D.C.-MARYLAND-VIRGINIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	1,513,121	2,063,371	2,217,818	2,750,782	2,808,703
PER CAPITA INCOME (1967$)	2,785	2,969	3,238	3,914	4,037
PER CAPITA INCOME RELATIVE (US=1.00)	1.35	1.22	1.25	1.18	1.18
TOTAL EMPLOYMENT	683,252	878,680			
EMPLOYMENT/POPULATION RATIO	.45	.43			
EARNINGS PER WORKER (1967$)	5,023	5,785			
EARNINGS PER WORKER RELATIVE(US=1.00)	1.12	1.08			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	4,213,883	6,125,531	7,180,720	10,765,567	11,339,724
TOTAL EARNINGS	3,432,121	5,082,741	5,974,046	9,071,889	9,609,175
AGRICULTURE, FORESTRY & FISHERIES	48,574	34,167	37,386	46,471	50,222
AGRICULTURE	36,660	20,556	20,811	24,919	26,831
FORESTRY & FISHERIES	11,913	13,612	16,575	21,552	23,391
MINING	2,719	5,834	7,608	11,177	11,342
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	2,687	5,514	7,170	10,558	10,767
CONTRACT CONSTRUCTION	(D)	(D)	(D)	(D)	(D)
MANUFACTURING	144,312	234,720	275,563	380,971	395,807
FOOD & KINDRED PRODUCTS	36,948	50,942	54,062	60,235	57,809
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	5,943	5,656	6,364	8,901	8,897
PAPER & ALLIED PRODUCTS	4,024	5,499	7,638	2,865	3,696
PRINTING & PUBLISHING	68,551	88,860	104,059	156,172	164,613
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	711	623	1,020	1,372	1,557
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	4,644				
MOTOR VEHICLES & EQUIPMENT	0	98	639	1,710	1,606
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	7,876	19,849	26,956	33,627	37,796
TRANS., COMM. & PUBLIC UTILITIES	236,912	335,940	352,988	513,042	536,522
RAILROAD TRANSPORTATION	(D)	(D)	(D)	(D)	(D)
TRUCKING & WAREHOUSING	20,816	25,704	32,718	51,702	55,725
OTHER TRANSPORTATION & SERVICES	(D)	(D)	(D)	(D)	(D)
COMMUNICATIONS	58,347	81,116	98,915	177,940	190,208
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	568,112	739,696	858,169	1,276,821	1,339,642
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	511,791	857,891	1,129,716	1,869,707	2,025,918
LODGING PLACES & PERSONAL SERV.	81,567	109,852	125,870	172,709	176,774
BUSINESS & REPAIR SERVICES	38,291	163,193	220,942	472,157	537,633
AMUSEMENT & RECREATION SERVICES	19,595	31,619	36,198	49,140	50,405
PRIVATE HOUSEHOLDS	94,198	99,691	100,706	91,703	88,795
PROFESSIONAL SERVICES	278,143	453,537	646,000	1,083,999	1,172,312
GOVERNMENT	1,537,733	2,292,764	2,617,067	3,991,425	4,186,680
CIVILIAN GOVERNMENT	1,279,814	1,908,377	2,270,850	3,366,259	3,532,704
FEDERAL GOVERNMENT	1,168,962	1,667,831	1,958,200	2,671,395	2,771,615
STATE & LOCAL GOVERNMENT	110,854	240,545	312,649	694,864	761,089
ARMED FORCES	257,920	384,389	346,218	625,165	653,475

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-86
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 18-1, WASHINGTON, D.C.-MD.-VA. SMSA, 1980-2020, SERIES C

18-1 WASHINGTON, D.C.-MARYLAND-VIRGINIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	3,479,079	4,233,002	5,003,100	5,920,956	6,964,315
PER CAPITA INCOME (1967$)	5,728	7,272	9,619	12,344	15,706
PER CAPITA INCOME RELATIVE (US=1.00)	1.20	1.18	1.16	1.13	1.10
TOTAL EMPLOYMENT	1,596,171	1,826,212	2,199,208	2,600,153	3,032,746
EMPLOYMENT/POPULATION RATIO	.44	.43	.44	.44	.44
EARNINGS PER WORKER (1967$)	10,363	13,368	17,151	21,814	27,765
EARNINGS PER WORKER RELATIVE(US=1.00)	1.10	1.10	1.08	1.07	1.05
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	19,929,065	30,783,635	48,126,348	73,086,866	109,378,913
TOTAL EARNINGS	16,022,357	24,412,295	37,718,972	56,719,633	84,205,227
AGRICULTURE, FORESTRY & FISHERIES	67,825	86,108	113,286	153,261	205,854
AGRICULTURE	28,372	31,373	36,930	48,032	64,430
FORESTRY & FISHERIES	39,453	54,735	76,357	105,230	141,425
MINING	17,403	23,997	34,103	47,724	67,507
METAL	(D)	(D)	(D)	(D)	(D)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	16,671	23,084	32,970	46,374	65,899
CONTRACT CONSTRUCTION	(D)	(D)	(D)	(D)	(D)
MANUFACTURING	650,072	981,069	1,512,168	2,283,154	3,435,460
FOOD & KINDRED PRODUCTS	87,594	119,831	168,408	230,444	313,755
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	13,459	17,921	24,548	33,319	45,928
PAPER & ALLIED PRODUCTS	5,333	7,179	10,271	14,185	19,921
PRINTING & PUBLISHING	260,639	382,109	568,580	826,166	1,190,702
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	2,313	3,257	4,598	6,361	8,909
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	1,168	1,610	2,294	3,368	4,797
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	63,160	96,360	150,017	228,561	347,131
TRANS., COMM. & PUBLIC UTILITIES	853,308	1,265,136	1,913,270	2,833,592	4,170,080
RAILROAD TRANSPORTATION	(D)	(D)	(D)	(D)	(D)
TRUCKING & WAREHOUSING	92,957	146,619	233,992	367,545	568,778
OTHER TRANSPORTATION & SERVICES	(D)	(D)	(D)	(D)	(D)
COMMUNICATIONS	303,824	458,621	707,367	1,067,024	1,597,248
UTILITIES (ELEC., GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	2,350,921	3,660,720	5,780,865	8,852,127	13,355,226
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	3,752,864	6,226,622	10,376,155	16,670,591	26,212,561
LODGING PLACES & PERSONAL SERV.	294,480	439,830	673,727	1,013,138	1,517,308
BUSINESS & REPAIR SERVICES	970,745	1,639,591	2,774,053	4,515,133	7,181,516
AMUSEMENT & RECREATION SERVICES	85,436	128,603	196,292	291,045	425,186
PRIVATE HOUSEHOLDS	121,021	146,845	179,485	213,174	254,055
PROFESSIONAL SERVICES	2,281,182	3,871,753	6,552,598	10,638,101	16,834,495
GOVERNMENT	6,569,225	9,481,433	13,835,935	19,636,168	27,513,074
CIVILIAN GOVERNMENT	5,764,545	8,437,416	12,479,464	17,880,855	25,232,794
FEDERAL GOVERNMENT	4,198,484	5,718,739	7,833,523	10,332,987	13,267,046
STATE & LOCAL GOVERNMENT	1,566,060	2,718,677	4,645,942	7,547,868	11,965,749
ARMED FORCES	804,681	1,044,017	1,356,471	1,755,313	2,280,279

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-87
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 18-2, MARYLAND NON-SMSA AREA, 1950-1969

18-2 MARYLAND NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	64,957	86,337	96,372	111,837	113,833
PER CAPITA INCOME (1967$)	1,622	2,017	2,166	3,118	3,183
PER CAPITA INCOME RELATIVE (US=1,00)	.79	.83	.84	.94	.93
TOTAL EMPLOYMENT	24,350	30,567			
EMPLOYMENT/POPULATION RATIO	.37	.35			
EARNINGS PER WORKER (1967$)	3,718	4,871			
EARNINGS PER WORKER RELATIVE(US=1,00)	.83	.91			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	105,352	174,131	208,726	348,698	362,332
TOTAL EARNINGS	90,531	148,893	172,564	268,187	277,920
AGRICULTURE, FORESTRY & FISHERIES	15,760	11,740	14,113	10,146	11,491
AGRICULTURE	14,484	10,905	13,507	9,882	11,361
FORESTRY & FISHERIES	1,275	835	607	263	130
MINING	(D)	(D)	(D)	(D)	(D)
METAL	0	11	14	0	0
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	3,250	5,235	5,866	9,787	10,792
MANUFACTURING	3,250	5,881	5,722	6,399	6,904
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	0	0	112	0	0
LUMBER PRODUCTS & FURNITURE	1,213	2,124	1,384	1,955	2,051
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	0	0	0	0	18
FABRICATED METALS & ORDNANCE	0	0	0	11	9
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	(D)				
MOTOR VEHICLES & EQUIPMENT	0	0	0	22	22
TRANS. EQUIP.. EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	40	169	242	393	340
TRANS,, COMM, & PUBLIC UTILITIES	1,255	2,909	3,991	7,573	7,514
RAILROAD TRANSPORTATION	(D)	(D)	(D)	(D)	(D)
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	(D)	(D)	(D)	(D)	(D)
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	10,474	18,917	22,220	29,679	29,646
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	5,976	10,886	14,576	23,236	22,181
LODGING PLACES & PERSONAL SERV.	(D)	(D)	(D)	(D)	(D)
BUSINESS & REPAIR SERVICES	(D)	(D)	(D)	(D)	(D)
AMUSEMENT & RECREATION SERVICES	793	999	1,583	1,767	1,325
PRIVATE HOUSEHOLDS	2,048	2,396	2,599	2,281	2,208
PROFESSIONAL SERVICES	2,155	5,326	7,129	12,482	11,930
GOVERNMENT	49,743	91,058	103,251	177,255	184,611
CIVILIAN GOVERNMENT	22,554	55,382	70,336	126,795	133,633
FEDERAL GOVERNMENT	18,579	43,095	54,360	100,736	104,108
STATE & LOCAL GOVERNMENT	3,975	12,287	15,977	26,059	29,525
ARMED FORCES	27,189	35,676	32,915	50,461	50,979

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-88
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 18-2, MARYLAND NON-SMSA AREA, 1980-2020, SERIES C

18-2 MARYLAND NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	137,988	171,378	206,054	247,192	293,877
PER CAPITA INCOME (1967$)	4,779	6,267	8,509	11,144	14,386
PER CAPITA INCOME RELATIVE (US=1.00)	1.00	1.02	1.03	1.02	1.01
TOTAL EMPLOYMENT	56,521	69,430	86,432	105,054	125,227
EMPLOYMENT/POPULATION RATIO	.41	.41	.42	.42	.43
EARNINGS PER WORKER (1967$)	9,693	12,819	16,587	21,038	26,472
EARNINGS PER WORKER RELATIVE(US=1.00)	1.03	1.05	1.05	1.03	1.00
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	659,457	1,074,002	1,753,348	2,754,612	4,227,664
TOTAL EARNINGS	547,832	890,047	1,433,677	2,210,173	3,314,956
AGRICULTURE, FORESTRY & FISHERIES	12,998	13,928	16,567	21,638	29,031
AGRICULTURE	12,428	13,139	15,464	20,115	26,983
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
METAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	19,541	31,516	51,170	80,319	123,288
MANUFACTURING	10,893	16,119	24,274	35,593	51,931
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(S)	(S)	(S)	(S)	(S)
LUMBER PRODUCTS & FURNITURE	3,497	5,060	7,404	10,583	15,162
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(S)	(S)	(S)	(S)	(S)
FABRICATED METALS & ORDNANCE	(S)	(S)	(S)	(S)	(S)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	(D)	(D)	(D)	(D)	(D)
OTHER MANUFACTURING	1,197	2,287	4,186	7,170	11,826
TRANS., COMM. & PUBLIC UTILITIES	16,372	28,058	47,494	76,886	120,985
RAILROAD TRANSPORTATION	(D)	(D)	(D)	(D)	(D)
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	(D)	(D)	(D)	(D)	(D)
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	64,455	106,760	178,216	287,090	453,582
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	50,359	90,386	162,593	280,939	473,394
LODGING PLACES & PERSONAL SERV.	(D)	(D)	(D)	(D)	(D)
BUSINESS & REPAIR SERVICES	(D)	(D)	(D)	(D)	(D)
AMUSEMENT & RECREATION SERVICES	2,964	4,321	6,431	9,334	13,375
PRIVATE HOUSEHOLDS	3,745	4,923	6,445	8,129	10,203
PROFESSIONAL SERVICES	33,347	64,544	122,771	221,199	384,694
GOVERNMENT	364,415	588,503	928,498	1,387,382	1,998,400
CIVILIAN GOVERNMENT	299,515	504,048	818,499	1,244,751	1,812,836
FEDERAL GOVERNMENT	229,744	377,263	593,139	865,918	1,194,796
STATE & LOCAL GOVERNMENT	69,771	126,785	225,360	378,832	618,040
ARMED FORCES	64,900	84,456	109,999	142,632	185,564

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-89
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 18-3, VIRGINIA NON SMSA AREA, 1950-1969

18-3 VIRGINIA NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	42,643	51,370	55,886	62,015	62,918
PER CAPITA INCOME (1967$)	1,570	1,834	1,959	2,584	2,747
PER CAPITA INCOME RELATIVE (US=1.00)	.76	.75	.76	.78	.80
TOTAL EMPLOYMENT	16,082	18,997			
EMPLOYMENT/POPULATION RATIO	.38	.37			
EARNINGS PER WORKER (1967$)	3,329	3,963			
EARNINGS PER WORKER RELATIVE(US=1.00)	.74	.74			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	66,948	94,231	109,458	160,241	172,819
TOTAL EARNINGS	53,543	75,281	86,238	117,455	124,298
AGRICULTURE, FORESTRY & FISHERIES	4,109	2,386	2,800	1,116	1,462
AGRICULTURE	3,880	2,210	2,676	1,073	1,417
FORESTRY & FISHERIES	228	175	125	43	45
MINING	(D)	(D)	(D)	(D)	(D)
COAL	0	0	0	7	2
CRUDE PETROLEUM & NATURAL GAS	0	0	0	2	1
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	1,522	3,388	2,741	4,487	4,988
MANUFACTURING	(D)	(D)	(D)	(D)	(D)
FOOD & KINDRED PRODUCTS	339	1,303	1,519	2,254	2,352
APPAREL & OTHER FABRIC PRODUCTS	2,371	2,058	2,870	3,939	4,245
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	(D)				
MOTOR VEHICLES & EQUIPMENT	0	0	0	0	2
TRANS. EQUIP., EXCL. MTR. VEHS.	0	0	0	2	22
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM, & PUBLIC UTILITIES	2,255	2,325	3,680	4,920	5,272
RAILROAD TRANSPORTATION	1,344	962	946	949	918
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	134	237	152	340	375
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	9,329	11,528	12,890	18,086	19,153
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	4,554	6,789	8,118	12,747	13,874
LODGING PLACES & PERSONAL SERV.	(D)	(D)	(D)	(D)	(D)
BUSINESS & REPAIR SERVICES	(D)	(D)	(D)	(D)	(D)
AMUSEMENT & RECREATION SERVICES	500	260	298	475	419
PRIVATE HOUSEHOLDS	1,283	1,911	1,918	1,749	1,691
PROFESSIONAL SERVICES	1,389	3,074	4,029	6,415	7,482
GOVERNMENT	15,205	25,207	29,923	48,482	50,943
CIVILIAN GOVERNMENT	11,834	20,332	25,538	42,143	44,642
FEDERAL GOVERNMENT	5,494	8,697	11,373	19,056	19,615
STATE & LOCAL GOVERNMENT	6,340	11,636	14,166	23,087	25,027
ARMED FORCES	3,372	4,875	4,385	6,338	6,301

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-90
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 18-3, VIRGINIA NON-SMSA AREA, 1980-2020, SERIES C

18-3 VIRGINIA NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	77,909	91,798	105,111	120,807	138,918
PER CAPITA INCOME (1967$)	3,868	5,312	7,520	10,207	13,561
PER CAPITA INCOME RELATIVE (US=1.00)	.81	.86	.91	.94	.95
TOTAL EMPLOYMENT	31,691	36,536	42,934	49,524	56,908
EMPLOYMENT/POPULATION RATIO	.41	.40	.41	.41	.41
EARNINGS PER WORKER (1967$)	7,413	10,317	14,169	19,144	25,684
EARNINGS PER WORKER RELATIVE(US=1.00)	.79	.85	.90	.94	.97
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	301,365	487,660	790,438	1,233,017	1,883,843
TOTAL EARNINGS	234,911	376,925	608,330	948,079	1,451,357
AGRICULTURE, FORESTRY & FISHERIES	1,478	1,604	1,971	2,605	3,501
AGRICULTURE	1,220	1,241	1,461	1,899	2,548
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	9,069	14,145	22,332	34,296	51,724
MANUFACTURING	(D)	(D)	(D)	(D)	(D)
FOOD & KINDRED PRODUCTS	4,080	6,257	9,699	14,443	21,157
APPAREL & OTHER FABRIC PRODUCTS	6,189	8,495	11,862	16,377	22,644
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	9,324	15,201	25,000	39,972	62,740
RAILROAD TRANSPORTATION	1,213	1,480	1,820	2,127	2,462
TRUCKING & WAREHOUSING	(D)	(D)	(D)	(D)	(D)
OTHER TRANSPORTATION & SERVICES	(S)	(S)	(S)	(S)	(S)
COMMUNICATIONS	(D)	(D)	(D)	(D)	(D)
UTILITIES (ELEC.,GAS, SANITARY)	(D)	(D)	(D)	(D)	(D)
WHOLESALE & RETAIL TRADE	33,988	51,790	80,224	120,821	179,362
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	26,480	44,970	76,742	126,458	204,302
LODGING PLACES & PERSONAL SERV.	(D)	(D)	(D)	(D)	(D)
BUSINESS & REPAIR SERVICES	(D)	(D)	(D)	(D)	(D)
AMUSEMENT & RECREATION SERVICES	(S)	(S)	(S)	(S)	(S)
PRIVATE HOUSEHOLDS	2,938	3,996	5,339	6,792	8,516
PROFESSIONAL SERVICES	16,504	29,637	52,844	90,140	149,376
GOVERNMENT	110,007	185,423	308,463	488,927	755,207
CIVILIAN GOVERNMENT	104,229	178,114	299,171	477,126	740,071
FEDERAL GOVERNMENT	37,472	58,713	89,597	128,245	174,611
STATE & LOCAL GOVERNMENT	66,757	119,401	209,574	348,881	565,461
ARMED FORCES	5,779	7,309	9,292	11,801	15,136

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-91
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 18-4, RESIDUAL NON-SMSA AREA, 1950-1969

18-4 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	40,556	44,342	44,963	49,911	49,913
PER CAPITA INCOME (1967$)	1,077	1,395	1,689	2,384	2,381
PER CAPITA INCOME RELATIVE (US=1.00)	.52	.57	.65	.72	.69
TOTAL EMPLOYMENT	14,435	15,967			
EMPLOYMENT/POPULATION RATIO	.36	.36			
EARNINGS PER WORKER (1967$)	2,498	3,011			
EARNINGS PER WORKER RELATIVE(US=1.00)	.55	.56			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	43,688	61,861	75,932	118,964	118,823
TOTAL EARNINGS	36,057	48,077	57,349	86,660	86,595
AGRICULTURE, FORESTRY & FISHERIES	11,793	10,371	11,583	7,880	7,816
AGRICULTURE	11,783	10,332	11,562	7,859	7,800
FORESTRY & FISHERIES	10	38	20	21	15
MINING	(D)	(D)	(D)	(D)	(D)
COAL	0	0	0	1	0
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	2,578	4,505	4,084	9,626	5,843
MANUFACTURING	(D)	(D)	(D)	(D)	(D)
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	0	0	63	0	0
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	0	17	63	0	0
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		0	0	2	2
TOTAL MACHINERY (1950 ONLY)	0				
MOTOR VEHICLES & EQUIPMENT	0	0	1,004	1,498	1,054
TRANS. EQUIP., EXCL. MTR. VEHS.	0	0	0	434	324
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	1,368	2,172	2,380	3,200	3,612
RAILROAD TRANSPORTATION	463	202	202	198	195
TRUCKING & WAREHOUSING	174	560	521	891	949
OTHER TRANSPORTATION & SERVICES	0	0	12	23	20
COMMUNICATIONS	610	1,337	1,356	1,749	2,082
UTILITIES (ELEC., GAS, SANITARY)	123	73	288	339	365
WHOLESALE & RETAIL TRADE	5,443	7,435	8,836	12,283	12,814
FINANCE, INSURANCE & REAL ESTATE	695	1,112	1,217	2,106	2,147
SERVICES	4,071	6,544	8,033	11,683	12,357
LODGING PLACES & PERSONAL SERV.	509	647	693	2,280	2,445
BUSINESS & REPAIR SERVICES	141	185	243	612	768
AMUSEMENT & RECREATION SERVICES	133	224	371	617	641
PRIVATE HOUSEHOLDS	1,836	3,126	3,323	3,194	3,092
PROFESSIONAL SERVICES	1,448	2,362	3,405	4,981	5,413
GOVERNMENT	7,900	13,125	15,541	29,603	31,083
CIVILIAN GOVERNMENT	4,617	10,225	12,920	21,685	22,991
FEDERAL GOVERNMENT	1,493	4,182	5,783	10,819	11,178
STATE & LOCAL GOVERNMENT	3,124	6,043	7,137	10,866	11,813
ARMED FORCES	3,282	2,899	2,621	7,918	8,092

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-92
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 18-4, RESIDUAL NON-SMSA AREA, 1980-2020, SERIES C

18-4 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	55,517	63,569	71,566	81,574	93,245
PER CAPITA INCOME (1967$)	3,539	4,865	6,894	9,361	12,440
PER CAPITA INCOME RELATIVE (US=1.00)	.74	.79	.83	.86	.87
TOTAL EMPLOYMENT	24,465	27,413	31,672	36,223	41,072
EMPLOYMENT/POPULATION RATIO	.44	.43	.44	.44	.44
EARNINGS PER WORKER (1967$)	6,056	8,455	11,611	15,656	20,939
EARNINGS PER WORKER RELATIVE(US=1.00)	.64	.69	.73	.77	.79
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	196,464	309,288	493,361	763,621	1,159,951
TOTAL EARNINGS	148,167	231,790	367,742	567,107	860,024
AGRICULTURE, FORESTRY & FISHERIES	7,825	8,026	9,476	12,343	16,567
AGRICULTURE	7,767	7,939	9,345	12,155	16,305
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
COAL	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	9,834	14,923	22,986	34,533	51,060
MANUFACTURING	(D)	(D)	(D)	(D)	(D)
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(S)	(S)	(S)	(S)	(S)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(S)	(S)	(S)	(S)	(S)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(S)	(S)	(S)	(S)	(S)
MOTOR VEHICLES & EQUIPMENT	2,353	3,505	5,341	8,290	12,337
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	6,265	10,022	16,241	25,675	39,940
RAILROAD TRANSPORTATION	(S)	(S)	(S)	(S)	(S)
TRUCKING & WAREHOUSING	1,999	3,645	6,497	11,092	18,239
OTHER TRANSPORTATION & SERVICES	(S)	(S)	(S)	(S)	(S)
COMMUNICATIONS	3,306	4,910	7,474	11,178	16,639
UTILITIES (ELEC.,GAS, SANITARY)	(S)	(S)	(S)	(S)	(S)
WHOLESALE & RETAIL TRADE	22,015	33,789	52,697	79,863	119,214
FINANCE, INSURANCE & REAL ESTATE	2,842	4,167	6,215	9,043	13,049
SERVICES	22,646	36,664	59,633	94,004	146,051
LODGING PLACES & PERSONAL SERV.	3,884	6,471	10,870	17,682	28,293
BUSINESS & REPAIR SERVICES	(S)	(S)	(S)	(S)	(S)
AMUSEMENT & RECREATION SERVICES	1,265	2,049	3,313	5,139	7,757
PRIVATE HOUSEHOLDS	5,619	7,798	10,564	13,569	17,130
PROFESSIONAL SERVICES	11,200	19,402	33,506	55,628	89,994
GOVERNMENT	59,765	98,676	161,421	252,554	385,786
CIVILIAN GOVERNMENT	52,767	89,650	149,753	237,522	366,315
FEDERAL GOVERNMENT	21,231	33,204	50,614	72,387	98,506
STATE & LOCAL GOVERNMENT	31,536	56,445	99,140	165,136	267,809
ARMED FORCES	6,998	9,027	11,667	15,032	19,471

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-93
SUB-SEGMENT AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 21C - RICHMOND, VA.

21-1 Richmond, Va. and Petersburg,-Colonial Heights, Va. SMSA's (Combined)*
- Chesterfield
- Hanover
- Henrico and Richmond City
- Colonial Heights**
- Dinwiddie and Petersburg
- Prince George and Hopewell

21-2 Non-SMSA Area, Virginia*
- Caroline
- Charles City
- Essex
- King and Queen
- King William
- Lancaster
- New Kent
- Northumberland
- Richmond
- Westmoreland

21-3 Residual Non-SMSA Area***
- Albemarle and Charlottesville, Virginia
- Amelia, Virginia
- Brunswick, Virginia
- Buckingham, Virginia
- Cumberland, Virginia
- Fluvanna, Virginia
- Goochland, Virginia
- Greene, Virginia
- Greensville, Virginia
- Louisa, Virginia
- Lunenburg, Virginia
- Madison, Virginia
- Mecklenburg, Virginia
- Nottoway, Virginia
- Orange, Virginia
- Powhatan, Virginia
- Prince Edward, Virginia
- Sussex, Virginia

*Included in Estuary Area as defined.
**Colonial Heights currently included in Chesterfield County.
***In addition, projections of population and total personal income will be made for the following group of counties to permit reconciliation with State Planning Districts:

- Greensville, Virginia
- Goochland, Virginia
- Powhatan, Virginia
- Sussex, Virginia

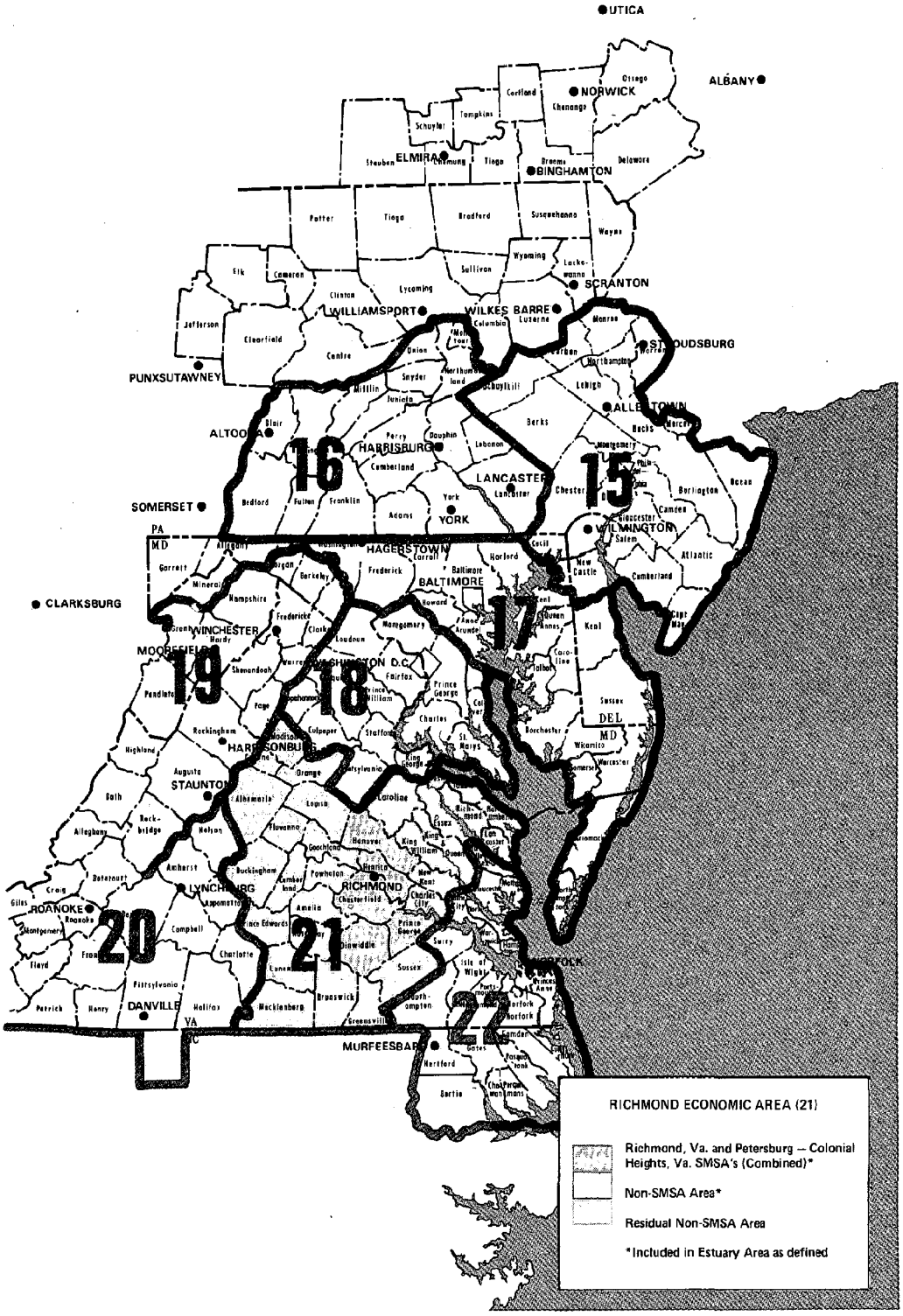
UTICA
ALBANY
NORWICK
ELMIRA
BINGHAMTON
SCRANTON
WILLIAMSPORT
WILKES BARRE
PUNXSUTAWNEY
ALTOONA
HARRISBURG
LANCASTER
SOMERSET
YORK
WILMINGTON
HAGERSTOWN
BALTIMORE
CLARKSBURG
WINCHESTER
WASHINGTON D.C.
STAUNTON
RICHMOND
LYNCHBURG
ROANOKE
DANVILLE
MURFEESBARO
NORFOLK
16
15
17
19
18
20
21
22
RICHMOND ECONOMIC AREA (21)
Richmond, Va. and Petersburg – Colonial Heights, Va. SMSA's (Combined)*
Non-SMSA Area*
Residual Non-SMSA Area
*Included in Estuary Area as defined

FIGURE 3-26

TABLE 3-94
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 21, RICHMOND, VA., 1950-1969

ECONOMIC AREA 21
RICHMOND, VIRGINIA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	783,604	885,740	926,661	1,005,743	1,008,183
PER CAPITA INCOME (1967$)	1,723	2,017	2,257	3,023	3,151
PER CAPITA INCOME RELATIVE (US=1.00)	.83	.83	.87	.91	.92
TOTAL EMPLOYMENT	305,945	334,134			
EMPLOYMENT/POPULATION RATIO	.39	.38			
EARNINGS PER WORKER (1967$)	3,786	4,492			
EARNINGS PER WORKER RELATIVE(US=1.00)	.84	.84			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,350,538	1,786,890	2,091,513	3,040,169	3,176,606
TOTAL EARNINGS	1,158,459	1,500,818	1,733,197	2,456,539	2,580,104
AGRICULTURE, FORESTRY & FISHERIES	111,995	77,657	92,401	60,326	68,818
AGRICULTURE	107,727	73,819	89,537	58,325	67,183
FORESTRY & FISHERIES	4,273	3,836	2,868	2,003	1,627
MINING	2,582	3,075	3,656	4,911	4,788
METAL	197	142	581	57	
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	2,168	2,933	2,874	4,625	4,557
CONTRACT CONSTRUCTION	70,260	88,699	103,302	158,920	166,731
MANUFACTURING	262,529	377,035	440,306	620,000	647,853
FOOD & KINDRED PRODUCTS	25,306	38,837	42,519	54,984	57,370
TEXTILE MILL PRODUCTS	16,320	18,773	15,798	25,312	25,985
APPAREL & OTHER FABRIC PRODUCTS	15,806	20,618	25,057	33,773	35,996
LUMBER PRODUCTS & FURNITURE	41,479	44,479	44,479	63,831	65,130
PAPER & ALLIED PRODUCTS	21,729	32,869	37,884	44,514	48,924
PRINTING & PUBLISHING	13,834	23,239	25,363	37,015	39,058
CHEMICALS & ALLIED PRODUCTS	44,962	52,521	91,046	121,394	123,550
PETROLEUM REFINING	295	33	37	22	18
PRIMARY METALS	6,988	34,026	34,549	43,628	43,202
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		4,196	8,173	15,550	18,481
ELECTRICAL MACHINERY & SUPPLIES		6,097	10,609	21,234	23,509
TOTAL MACHINERY (1950 ONLY)	1,603				
MOTOR VEHICLES & EQUIPMENT	251	541	767	2,782	3,105
TRANS. EQUIP., EXCL. MTR. VEHS.	410	705	1,882	4,235	3,048
OTHER MANUFACTURING	61,998	87,618	91,050	134,237	141,035
TRANS., COMM. & PUBLIC UTILITIES	117,675	133,246	144,109	182,621	185,972
RAILROAD TRANSPORTATION	52,692	52,298	52,037	50,357	48,394
TRUCKING & WAREHOUSING	10,073	22,960	27,847	46,355	47,280
OTHER TRANSPORTATION & SERVICES	13,920	10,008	11,859	15,843	16,305
COMMUNICATIONS	14,815	29,317	33,616	45,400	47,430
UTILITIES (ELEC.,GAS, SANITARY)	26,175	18,661	18,748	24,664	26,256
WHOLESALE & RETAIL TRADE	224,591	292,024	312,613	415,208	436,874
FINANCE, INSURANCE & REAL ESTATE	60,954	97,083	111,281	159,221	166,147
SERVICES	122,348	165,816	200,357	294,018	313,321
LODGING PLACES & PERSONAL SERV.	23,038	26,337	28,564	43,484	43,977
BUSINESS & REPAIR SERVICES	11,171	19,067	23,924	44,930	49,595
AMUSEMENT & RECREATION SERVICES	6,924	4,791	7,056	8,477	8,120
PRIVATE HOUSEHOLDS	34,778	35,481	37,483	34,729	33,627
PROFESSIONAL SERVICES	46,432	80,141	103,332	162,398	177,999
GOVERNMENT	185,515	266,187	325,172	561,314	589,603
CIVILIAN GOVERNMENT	151,215	217,349	272,140	450,247	480,519
FEDERAL GOVERNMENT	63,334	85,131	109,439	155,589	163,984
STATE & LOCAL GOVERNMENT	87,875	132,216	162,700	294,656	316,531
ARMED FORCES	34,304	48,833	53,028	111,063	109,088

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-95
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 21, RICHMOND, VA., 1980-2020, SERIES C

ECONOMIC AREA 21
RICHMOND, VIRGINIA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	1,196,403	1,370,580	1,597,648	1,838,081	2,087,752
PER CAPITA INCOME (1967$)	4,441	5,864	7,760	10,183	13,430
PER CAPITA INCOME RELATIVE (US=1.00)	.93	.95	.94	.93	.94
TOTAL EMPLOYMENT	487,150	554,170	642,998	735,931	834,401
EMPLOYMENT/POPULATION RATIO	.41	.40	.40	.40	.40
EARNINGS PER WORKER (1967$)	8,633	11,358	14,961	19,577	25,692
EARNINGS PER WORKER RELATIVE(US=1.00)	.92	.93	.95	.96	.97
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	5,313,592	8,037,252	12,397,369	18,716,602	28,038,141
TOTAL EARNINGS	4,205,671	6,294,463	9,619,806	14,407,173	21,437,780
AGRICULTURE, FORESTRY & FISHERIES	74,703	80,996	95,955	124,813	166,928
AGRICULTURE	71,180	76,432	89,967	117,015	156,966
FORESTRY & FISHERIES	3,524	4,564	5,988	7,798	9,963
MINING	7,417	10,154	14,295	19,931	27,997
METAL	(S)	(S)	(S)	(S)	(S)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	7,089	9,758	13,830	19,347	27,328
CONTRACT CONSTRUCTION	260,440	387,654	589,050	877,327	1,294,593
MANUFACTURING	1,004,143	1,452,354	2,156,530	3,155,038	4,620,361
FOOD & KINDRED PRODUCTS	77,945	98,472	127,118	162,040	208,727
TEXTILE MILL PRODUCTS	41,634	60,127	88,055	126,284	181,693
APPAREL & OTHER FABRIC PRODUCTS	60,282	89,429	134,305	197,770	290,861
LUMBER PRODUCTS & FURNITURE	92,091	122,148	166,770	225,379	308,354
PAPER & ALLIED PRODUCTS	77,445	113,859	171,806	255,055	378,082
PRINTING & PUBLISHING	59,854	86,622	128,058	186,152	270,068
CHEMICALS & ALLIED PRODUCTS	201,063	299,994	457,325	683,523	1,015,025
PETROLEUM REFINING	(S)	(S)	(S)	(S)	(S)
PRIMARY METALS	54,551	67,093	84,276	104,565	130,931
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	33,434	54,985	91,975	149,323	239,207
ELECTRICAL MACHINERY & SUPPLIES	43,747	72,930	121,906	196,277	313,064
MOTOR VEHICLES & EQUIPMENT	6,443	10,467	17,138	27,263	42,926
TRANS. EQUIP., EXCL. MTR. VEHS.	4,362	6,679	10,460	16,582	25,318
OTHER MANUFACTURING	220,395	325,219	491,775	729,911	1,078,572
TRANS., COMM. & PUBLIC UTILITIES	285,738	405,585	592,113	852,466	1,231,331
RAILROAD TRANSPORTATION	65,829	78,970	95,187	110,682	128,148
TRUCKING & WAREHOUSING	75,690	111,696	169,070	251,473	372,963
OTHER TRANSPORTATION & SERVICES	27,466	42,417	66,667	102,533	157,526
COMMUNICATIONS	76,964	115,421	177,190	265,959	395,861
UTILITIES (ELEC.,GAS, SANITARY)	39,790	57,082	83,999	121,819	176,833
WHOLESALE & RETAIL TRADE	729,486	1,093,858	1,678,841	2,521,234	3,761,612
FINANCE, INSURANCE & REAL ESTATE	263,099	386,203	581,306	859,084	1,262,015
SERVICES	563,118	907,779	1,476,459	2,329,342	3,610,659
LODGING PLACES & PERSONAL SERV.	73,631	107,834	161,477	237,283	347,311
BUSINESS & REPAIR SERVICES	91,185	151,546	252,137	403,843	632,739
AMUSEMENT & RECREATION SERVICES	14,489	22,082	34,136	51,523	77,528
PRIVATE HOUSEHOLDS	44,434	52,599	63,093	73,984	87,125
PROFESSIONAL SERVICES	339,379	573,719	965,616	1,562,708	2,465,957
GOVERNMENT	1,017,526	1,569,880	2,435,256	3,667,940	5,462,284
CIVILIAN GOVERNMENT	882,562	1,394,772	2,207,741	3,373,528	5,079,818
FEDERAL GOVERNMENT	256,307	361,583	510,746	692,051	909,837
STATE & LOCAL GOVERNMENT	626,256	1,033,189	1,696,995	2,681,477	4,169,981
ARMED FORCES	134,964	175,108	227,515	294,411	382,466

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-96
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 21-1, RICHMOND & PETERSBURG COLONIAL HEIGHTS, VIRGINIA SMSA's, 1950-1969

21-1 RICHMOND & PETERSBURG-COLONIAL HEIGHTS, VIRGINIA SMSAS

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	439,416	540,547	573,316	641,055	644,782
PER CAPITA INCOME (1967$)	2,179	2,425	2,653	3,495	3,619
PER CAPITA INCOME RELATIVE (US=1.00)	1.06	.99	1.03	1.05	1.05
TOTAL EMPLOYMENT	186,410	216,538			
EMPLOYMENT/POPULATION RATIO	.42	.40			
EARNINGS PER WORKER (1967$)	4,435	5,085			
EARNINGS PER WORKER RELATIVE(US=1.00)	.99	.95			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	957,506	1,311,030	1,521,065	2,240,219	2,333,553
TOTAL EARNINGS	826,769	1,101,165	1,263,790	1,845,960	1,932,420
AGRICULTURE, FORESTRY & FISHERIES	18,142	13,512	15,769	11,095	13,457
AGRICULTURE	17,919	13,347	15,653	11,012	13,384
FORESTRY & FISHERIES	224	165	117	83	71
MINING	(D)	(D)	(D)	(D)	(D)
METAL	67	142	289	57	
CRUDE PETROLEUM & NATURAL GAS	0	0	0	3	3
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	(D)	(D)	(D)	(D)	(D)
MANUFACTURING	199,487	289,405	343,824	464,054	481,880
FOOD & KINDRED PRODUCTS	21,206	28,903	29,518	35,715	36,606
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	12,169	12,017	15,871	19,649	21,060
LUMBER PRODUCTS & FURNITURE	12,284	13,921	15,733	22,750	22,570
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	12,942	21,398	22,938	33,707	35,445
CHEMICALS & ALLIED PRODUCTS	44,418	52,072	90,628	120,749	122,904
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	9,252	12,349	10,932	14,417	16,301
MACHINERY, EXCLUDING ELECTRICAL		3,751	7,597	14,524	17,309
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	(D)				
MOTOR VEHICLES & EQUIPMENT	251	541	767	1,735	1,664
TRANS. EQUIP., EXCL. MTR. VEHS.	0	67	377	2,007	539
OTHER MANUFACTURING	59,355	82,330	84,685	121,084	125,912
TRANS., COMM. & PUBLIC UTILITIES	97,888	109,282	116,116	148,989	151,594
RAILROAD TRANSPORTATION	38,636	40,015	39,834	37,824	36,191
TRUCKING & WAREHOUSING	8,101	18,861	23,415	41,194	42,408
OTHER TRANSPORTATION & SERVICES	12,846	9,221	10,639	14,092	14,662
COMMUNICATIONS	13,182	25,272	28,484	37,252	38,460
UTILITIES (ELEC.,GAS, SANITARY)	25,121	15,913	13,744	18,626	19,870
WHOLESALE & RETAIL TRADE	175,251	230,336	241,572	329,878	348,717
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	93,194	117,430	144,173	229,939	246,207
LODGING PLACES & PERSONAL SERV.	17,942	20,408	22,560	33,338	33,843
BUSINESS & REPAIR SERVICES	10,168	16,910	20,853	40,327	44,801
AMUSEMENT & RECREATION SERVICES	6,032	3,779	5,662	6,495	6,157
PRIVATE HOUSEHOLDS	23,343	21,879	22,886	21,670	20,983
PROFESSIONAL SERVICES	35,709	54,454	72,210	128,111	140,422
GOVERNMENT	137,714	184,746	224,177	398,206	416,256
CIVILIAN GOVERNMENT	106,485	143,757	179,542	297,183	316,799
FEDERAL GOVERNMENT	53,475	65,343	81,284	109,110	113,907
STATE & LOCAL GOVERNMENT	53,008	78,414	98,257	188,074	202,892
ARMED FORCES	31,230	40,988	44,634	101,022	99,458

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-97
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 21-1, RICHMOND & PETERSBURG-COLONIAL HEIGHTS, VIRGINIA SMSA's, 1980-2020, SERIES C

21-1 RICHMOND & PETERSBURG-COLONIAL HEIGHTS, VIRGINIA SMSAS

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	776,140	900,255	1,059,628	1,228,598	1,403,633
PER CAPITA INCOME (1967$)	5,061	6,587	8,612	11,191	14,649
PER CAPITA INCOME RELATIVE (US=1.00)	1.06	1.07	1.04	1.03	1.03
TOTAL EMPLOYMENT	329,489	376,406	438,093	502,487	570,620
EMPLOYMENT/POPULATION RATIO	.42	.42	.41	.41	.41
EARNINGS PER WORKER (1967$)	9,511	12,444	16,310	21,252	27,786
EARNINGS PER WORKER RELATIVE(US=1.00)	1.01	1.02	1.03	1.04	1.05
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	3,928,100	5,929,646	9,125,088	13,749,079	20,562,279
TOTAL EARNINGS	3,133,623	4,683,885	7,145,373	10,678,714	15,855,148
AGRICULTURE, FORESTRY & FISHERIES	15,204	16,474	19,424	25,271	33,889
AGRICULTURE	15,069	16,289	19,174	24,937	33,452
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
METAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	(D)	(D)	(D)	(D)	(D)
MANUFACTURING	741,448	1,065,155	1,573,268	2,292,140	3,342,405
FOOD & KINDRED PRODUCTS	48,527	59,842	75,662	94,803	120,488
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	34,695	50,609	74,888	108,922	158,650
LUMBER PRODUCTS & FURNITURE	34,071	46,262	64,379	88,324	122,204
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	53,817	77,194	113,250	163,580	236,124
CHEMICALS & ALLIED PRODUCTS	199,729	297,861	453,867	678,057	1,006,493
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	24,501	34,521	50,236	71,823	103,088
MACHINERY, EXCLUDING ELECTRICAL	31,241	51,163	85,279	138,053	220,663
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	4,023	6,416	10,340	16,237	25,307
TRANS. EQUIP., EXCL. MTR. VEHS.	1,867	2,802	4,312	6,740	10,175
OTHER MANUFACTURING	195,022	284,477	426,038	627,467	921,806
TRANS., COMM. & PUBLIC UTILITIES	234,612	333,608	487,350	701,639	1,013,259
RAILROAD TRANSPORTATION	50,943	61,863	75,352	88,419	103,193
TRUCKING & WAREHOUSING	68,019	101,015	153,680	229,510	341,469
OTHER TRANSPORTATION & SERVICES	24,052	36,798	57,380	87,686	134,074
COMMUNICATIONS	61,584	90,875	137,576	204,134	301,137
UTILITIES (ELEC.,GAS, SANITARY)	30,014	43,057	63,362	91,890	133,385
WHOLESALE & RETAIL TRADE	564,313	837,232	1,272,468	1,893,966	2,802,985
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	447,143	725,241	1,185,401	1,877,477	2,919,022
LODGING PLACES & PERSONAL SERV.	55,986	81,244	120,717	176,245	256,689
BUSINESS & REPAIR SERVICES	81,710	135,567	225,205	360,214	563,687
AMUSEMENT & RECREATION SERVICES	10,747	16,065	24,431	36,378	54,176
PRIVATE HOUSEHOLDS	27,427	32,248	38,456	44,874	52,655
PROFESSIONAL SERVICES	271,272	460,117	776,598	1,259,767	1,991,815
GOVERNMENT	703,741	1,078,751	1,663,582	2,493,820	3,696,999
CIVILIAN GOVERNMENT	580,396	918,602	1,455,375	2,224,261	3,346,684
FEDERAL GOVERNMENT	178,686	252,542	357,271	484,690	637,800
STATE & LOCAL GOVERNMENT	401,711	666,060	1,098,103	1,739,571	2,708,883
ARMED FORCES	123,345	160,150	208,208	269,560	350,315

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-98
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 21-2, NON-SMSA AREA, 1950-1969

21-2 NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	76,465	79,319	80,674	83,119	82,724
PER CAPITA INCOME (1967$)	1,091	1,338	1,539	2,088	2,167
PER CAPITA INCOME RELATIVE (US=1.00)	.53	.55	.60	.63	.63
TOTAL EMPLOYMENT	26,199	25,863			
EMPLOYMENT/POPULATION RATIO	.34	.33			
EARNINGS PER WORKER (1967$)	2,593	3,422			
EARNINGS PER WORKER RELATIVE(US=1.00)	.58	.64			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	83,402	106,125	124,137	173,568	179,289
TOTAL EARNINGS	67,923	88,506	100,778	120,936	125,396
AGRICULTURE, FORESTRY & FISHERIES	18,257	13,308	16,448	10,151	11,447
AGRICULTURE	14,505	10,403	14,304	8,391	10,025
FORESTRY & FISHERIES	3,752	2,905	2,146	1,761	1,419
MINING	(D)	(D)	(D)	(D)	(D)
COAL	0	0	0	1	0
CRUDE PETROLEUM & NATURAL GAS	0	0	0	4	1
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	(D)	(D)	(D)	(D)	(D)
MANUFACTURING	13,791	17,915	17,649	32,661	32,623
FOOD & KINDRED PRODUCTS	1,373	3,787	3,673	6,971	6,959
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	8,173	7,091	5,704	8,188	8,192
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	120	182	228	275	265
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	0	0	0	284	231
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	(D)				
MOTOR VEHICLES & EQUIPMENT	0	0	0	911	1,291
TRANS. EQUIP., EXCL. MTR. VEHS.	410	638	508	637	812
OTHER MANUFACTURING	28	17	38	269	191
TRANS., COMM. & PUBLIC UTILITIES	3,544	3,606	4,461	5,701	5,748
RAILROAD TRANSPORTATION	1,921	1,081	1,075	1,030	1,000
TRUCKING & WAREHOUSING	580	1,023	1,170	1,738	1,920
OTHER TRANSPORTATION & SERVICES	72	51	86	63	63
COMMUNICATIONS	634	805	1,008	1,462	1,642
UTILITIES (ELEC.,GAS, SANITARY)	336	706	1,122	1,406	1,523
WHOLESALE & RETAIL TRADE	11,526	13,831	15,961	17,591	17,746
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	5,933	16,348	17,682	11,483	11,490
LODGING PLACES & PERSONAL SERV.	1,126	1,806	1,313	2,053	1,919
BUSINESS & REPAIR SERVICES	99	117	220	773	838
AMUSEMENT & RECREATION SERVICES	103	114	183	390	325
PRIVATE HOUSEHOLDS	2,555	3,126	3,431	2,919	2,825
PROFESSIONAL SERVICES	2,048	11,184	12,535	5,347	5,580
GOVERNMENT	9,533	18,038	22,229	35,366	37,174
CIVILIAN GOVERNMENT	8,893	16,147	20,391	33,074	34,988
FEDERAL GOVERNMENT	2,973	5,125	7,218	10,595	10,854
STATE & LOCAL GOVERNMENT	5,920	11,021	13,171	22,477	24,130
ARMED FORCES	638	1,890	1,837	2,291	2,188

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-99
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 21-2, NON-SMSA AREA, 1980-2020, SERIES C

21-2 NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	95,688	106,153	120,479	135,614	151,371
PER CAPITA INCOME (1967$)	2,946	4,017	5,468	7,346	9,873
PER CAPITA INCOME RELATIVE (US=1.00)	.62	.65	.66	.67	.69
TOTAL EMPLOYMENT	30,660	34,133	38,964	43,956	49,250
EMPLOYMENT/POPULATION RATIO	.32	.32	.32	.32	.33
EARNINGS PER WORKER (1967$)	6,859	9,242	12,409	16,553	22,102
EARNINGS PER WORKER RELATIVE(US=1.00)	.73	.76	.78	.81	.83
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	281,869	426,445	658,762	996,229	1,494,534
TOTAL EARNINGS	210,310	315,449	483,498	727,619	1,088,537
AGRICULTURE, FORESTRY & FISHERIES	13,800	15,834	19,114	24,829	32,852
AGRICULTURE	10,820	12,009	14,137	18,388	24,665
FORESTRY & FISHERIES	2,980	3,825	4,977	6,441	8,187
MINING	(D)	(D)	(D)	(D)	(D)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	(D)	(D)	(D)	(D)	(D)
MANUFACTURING	51,125	73,145	107,399	155,508	225,860
FOOD & KINDRED PRODUCTS	10,011	13,127	17,449	22,742	29,747
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	11,117	14,247	18,881	24,895	33,413
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(S)	(S)	(S)	(S)	(S)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(S)	(S)	(S)	(S)	(S)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	2,385	3,991	6,697	10,863	17,357
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	(S)	(S)	(S)	(S)	(S)
TRANS., COMM. & PUBLIC UTILITIES	8,733	12,621	18,795	27,570	40,411
RAILROAD TRANSPORTATION	1,252	1,458	1,709	1,938	2,192
TRUCKING & WAREHOUSING	2,142	2,959	4,243	6,040	8,655
OTHER TRANSPORTATION & SERVICES	(S)	(S)	(S)	(S)	(S)
COMMUNICATIONS	2,899	4,680	7,620	11,970	18,431
UTILITIES (ELEC.,GAS, SANITARY)	2,308	3,310	4,869	7,062	10,254
WHOLESALE & RETAIL TRADE	33,716	52,762	84,073	130,478	200,340
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	19,926	31,084	49,210	75,992	115,888
LODGING PLACES & PERSONAL SERV.	3,400	5,138	7,892	11,829	17,558
BUSINESS & REPAIR SERVICES	1,733	2,979	5,100	8,365	13,365
AMUSEMENT & RECREATION SERVICES	(S)	(S)	(S)	(S)	(S)
PRIVATE HOUSEHOLDS	3,905	4,722	5,762	6,853	8,160
PROFESSIONAL SERVICES	10,223	17,145	28,644	46,073	72,933
GOVERNMENT	68,090	107,241	169,583	259,747	393,195
CIVILIAN GOVERNMENT	65,454	103,837	165,179	254,067	385,834
FEDERAL GOVERNMENT	16,601	23,487	33,266	45,215	59,639
STATE & LOCAL GOVERNMENT	48,853	80,351	131,913	208,852	326,195
ARMED FORCES	2,636	3,404	4,404	5,680	7,361

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-100
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 21-3, RESIDUAL NON-SMSA AREA, 1950-1969

21-3 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	267,723	265,874	272,671	281,569	280,677
PER CAPITA INCOME (1967$)	1,157	1,391	1,637	2,225	2,365
PER CAPITA INCOME RELATIVE (US=1.00)	.56	.57	.63	.67	.69
TOTAL EMPLOYMENT	93,336	91,733			
EMPLOYMENT/POPULATION RATIO	.35	.35			
EARNINGS PER WORKER (1967$)	2,826	3,392			
EARNINGS PER WORKER RELATIVE(US=1.00)	.63	.63			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	309,630	369,735	446,311	626,382	663,764
TOTAL EARNINGS	263,767	311,147	368,629	489,643	522,288
AGRICULTURE, FORESTRY & FISHERIES	75,596	50,837	60,184	39,080	43,914
AGRICULTURE	75,303	50,069	59,580	38,922	43,774
FORESTRY & FISHERIES	297	766	605	159	137
MINING	1,243	1,391	1,956	2,830	2,900
METAL	130	0	292	0	
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	894	1,391	1,464	2,609	2,647
CONTRACT CONSTRUCTION	17,281	16,781	18,892	30,693	32,363
MANUFACTURING	49,251	69,715	78,833	123,285	133,350
FOOD & KINDRED PRODUCTS	2,727	6,147	9,328	12,298	13,805
TEXTILE MILL PRODUCTS	15,627	18,249	14,921	22,198	23,160
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	21,022	23,467	23,042	32,893	34,368
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	772	1,659	2,197	3,033	3,348
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		6,097	10,609	20,793	23,039
TOTAL MACHINERY (1950 ONLY)	248				
MOTOR VEHICLES & EQUIPMENT	0	0	0	136	150
TRANS, EQUIP., EXCL, MTR. VEHS.	0	0	997	1,591	1,697
OTHER MANUFACTURING	2,615	5,271	6,327	12,884	14,932
TRANS., COMM, & PUBLIC UTILITIES	16,243	20,298	23,532	27,931	28,630
RAILROAD TRANSPORTATION	12,135	11,202	11,128	11,503	11,203
TRUCKING & WAREHOUSING	1,392	3,076	3,262	3,423	3,652
OTHER TRANSPORTATION & SERVICES	1,002	736	1,134	1,688	1,580
COMMUNICATIONS	999	3,240	4,124	6,686	7,328
UTILITIES (ELEC.,GAS, SANITARY)	718	2,042	3,882	4,632	4,863
WHOLESALE & RETAIL TRADE	37,814	47,857	55,080	67,739	70,411
FINANCE, INSURANCE & REAL ESTATE	4,845	8,827	12,884	17,745	18,925
SERVICES	23,221	32,038	38,502	52,596	55,624
LODGING PLACES & PERSONAL SERV.	3,970	4,123	4,691	8,093	8,215
BUSINESS & REPAIR SERVICES	904	2,040	2,851	3,830	3,956
AMUSEMENT & RECREATION SERVICES	789	898	1,211	1,592	1,638
PRIVATE HOUSEHOLDS	8,880	10,476	11,166	10,140	9,819
PROFESSIONAL SERVICES	8,675	14,503	18,587	28,940	31,997
GOVERNMENT	38,268	63,403	78,766	127,742	136,173
CIVILIAN GOVERNMENT	35,837	57,445	72,207	119,990	128,732
FEDERAL GOVERNMENT	6,886	14,663	20,937	35,884	39,223
STATE & LOCAL GOVERNMENT	28,947	42,781	51,272	84,105	89,509
ARMED FORCES	2,436	5,955	6,557	7,750	7,442

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-101
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 21-3, RESIDUAL NON-SMSA AREA, 1980-2020, SERIES C

21-3 RESIDUAL NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	324,575	364,172	417,541	473,869	532,748
PER CAPITA INCOME (1967$)	3,400	4,616	6,259	8,381	11,227
PER CAPITA INCOME RELATIVE (US=1.00)	.71	.75	.76	.77	.79
TOTAL EMPLOYMENT	127,001	143,631	165,941	189,488	214,531
EMPLOYMENT/POPULATION RATIO	.39	.39	.40	.40	.40
EARNINGS PER WORKER (1967$)	6,785	9,017	11,998	15,837	20,948
EARNINGS PER WORKER RELATIVE(US=1.00)	.72	.74	.76	.77	.79
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,103,624	1,681,161	2,613,519	3,971,293	5,981,328
TOTAL EARNINGS	861,738	1,295,130	1,990,935	3,000,840	4,494,096
AGRICULTURE, FORESTRY & FISHERIES	45,700	48,688	57,416	74,713	100,188
AGRICULTURE	45,292	48,133	56,656	73,690	98,849
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	4,580	6,363	9,061	12,768	18,050
METAL	(S)	(S)	(S)	(S)	(S)
COAL	(D)	(D)	(D)	(D)	(D)
CRUDE PETROLEUM & NATURAL GAS	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	4,253	5,969	8,598	12,187	17,385
CONTRACT CONSTRUCTION	52,519	78,284	119,097	177,513	262,001
MANUFACTURING	211,570	314,054	475,864	707,390	1,052,097
FOOD & KINDRED PRODUCTS	19,407	25,503	34,006	44,495	58,492
TEXTILE MILL PRODUCTS	37,153	53,729	78,781	113,097	162,849
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	46,904	61,639	83,510	112,160	152,737
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	5,593	8,728	13,703	20,878	31,388
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	42,706	70,935	118,206	189,838	302,201
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	2,000	3,135	5,009	8,066	12,464
OTHER MANUFACTURING	25,069	40,251	64,936	101,182	154,826
TRANS., COMM. & PUBLIC UTILITIES	42,394	59,356	85,968	123,258	177,661
RAILROAD TRANSPORTATION	13,634	15,649	18,126	20,326	22,762
TRUCKING & WAREHOUSING	9,529	7,722	11,147	15,923	22,839
OTHER TRANSPORTATION & SERVICES	3,281	5,403	8,934	14,287	22,374
COMMUNICATIONS	12,481	19,866	31,994	49,855	76,293
UTILITIES (ELEC.,GAS, SANITARY)	7,469	10,715	15,768	22,867	33,193
WHOLESALE & RETAIL TRADE	131,457	203,864	322,299	496,790	758,287
FINANCE, INSURANCE & REAL ESTATE	31,774	49,179	77,296	118,163	177,973
SERVICES	96,048	151,454	241,848	375,873	575,749
LODGING PLACES & PERSONAL SERV.	14,245	21,451	32,873	49,210	73,064
BUSINESS & REPAIR SERVICES	7,742	13,000	21,831	35,264	55,987
AMUSEMENT & RECREATION SERVICES	3,076	4,916	7,893	12,274	18,880
PRIVATE HOUSEHOLDS	13,102	15,629	18,877	22,257	26,310
PROFESSIONAL SERVICES	57,883	96,457	160,374	256,869	401,809
GOVERNMENT	245,695	383,888	602,092	914,372	1,372,090
CIVILIAN GOVERNMENT	236,712	372,333	587,188	895,201	1,347,300
FEDERAL GOVERNMENT	61,020	85,555	129,209	162,146	212,397
STATE & LOCAL GOVERNMENT	175,692	286,778	466,979	733,055	1,134,903
ARMED FORCES	8,983	11,555	14,904	19,171	24,790

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

21-3 Residual Non-SMSA Area

Goochland, Greensville, Powhatan and Sussex Counties

Population and Total Personal Income, Selected Historic and Projected Years, 1950-2020

	1950	1959	1962	1968	1969	1980	1990	2000	2020
Population, July 1	43,600	44,400	45,600	44,900	44,700	47,053	54,625	64,718	95,894
Total Personal Income (In Thousands of 1967$)	48,700	49,730	54,528	72,690	78,866	143,417	242,480	418,337	1,162,235

TABLE 3-102
SUB-SEGMENT AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 22C - NORFOLK-PORTSMOUTH, VA.

22-1 Newport News-Hampton, Va. SMSA*
York, Hampton and Newport News, Virginia

22-2 Norfolk-Portsmouth, Va. SMSA*
Chesapeake City, Virginia (Chesapeake, Norfolk and Portsmouth, Virginia)
Virginia Beach, Virginia (Virginia Beach and Princess Anne, Virginia)

22-3 Non-SMSA Area*
Gloucester, Virginia
Isle of Wight, Virginia
James City and Williamsburg, Virginia
Mathews, Virginia
Middlesex, Virginia
Nansemond and Suffolk, Virginia
Southampton and Franklin, Virginia
Surry, Virginia

22-4 Residual Non-SMSA Area
Bertie, North Carolina
Camden, North Carolina
Chowan, North Carolina
Currituck, North Carolina
Gates, North Carolina
Hertford, North Carolina
Pasquotank, North Carolina
Perquimans, North Carolina

*Included in Estuary Area as defined.

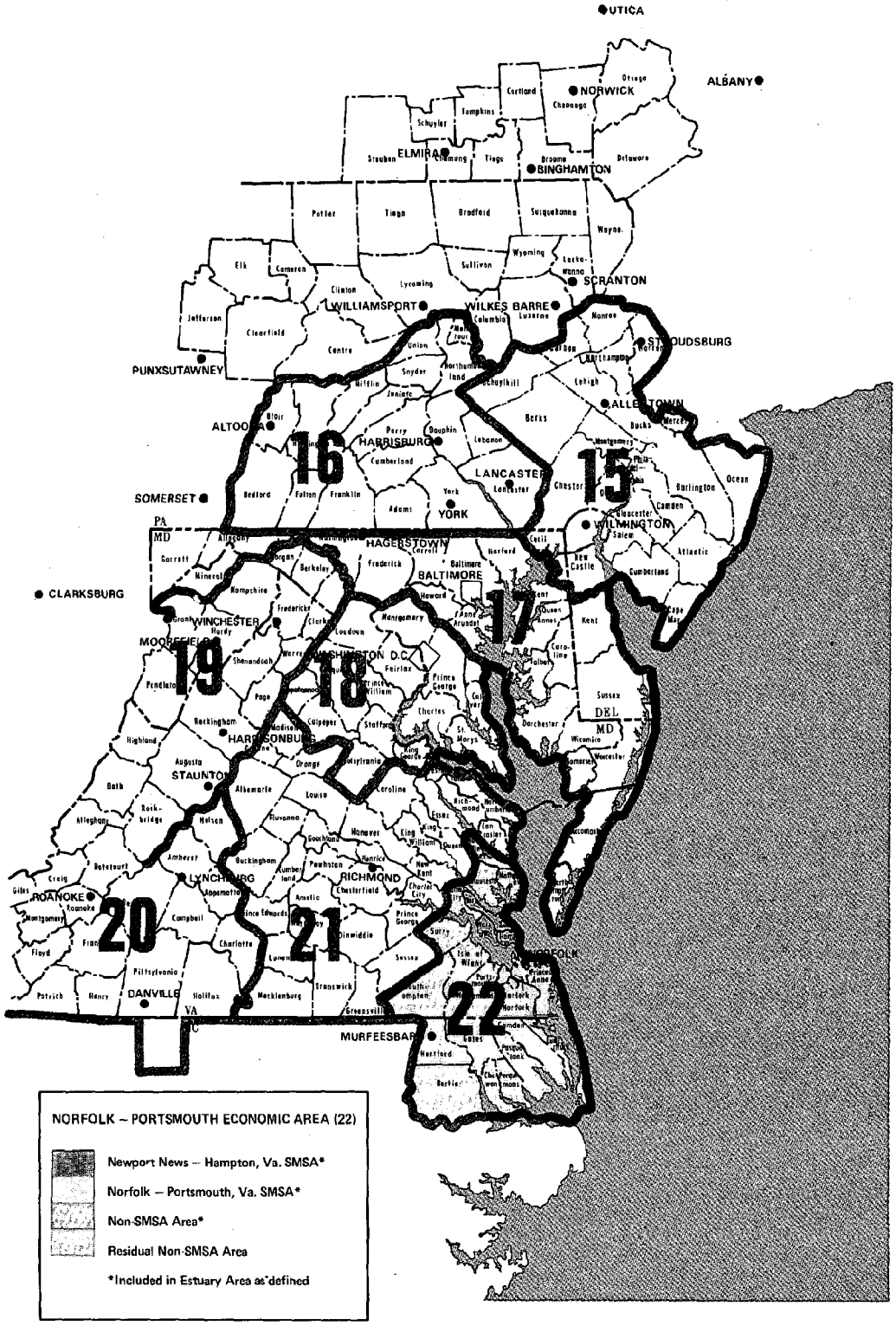
UTICA
ALBANY
NORWICK
ELMIRA
BINGHAMTON
SCRANTON
WILLIAMSPORT
WILKES BARRE
STROUDSBURG
PUNXSUTAWNEY
ALTOONA
HARRISBURG
LANCASTER
ALLENTOWN
SOMERSET
YORK
WILMINGTON
HAGERSTOWN
BALTIMORE
CLARKSBURG
WINCHESTER
WASHINGTON D.C.
HARRISONBURG
STAUNTON
LYNCHBURG
RICHMOND
ROANOKE
DANVILLE
MURFEESBORO
NORFOLK
16
15
17
19
18
20
21
22
NORFOLK – PORTSMOUTH ECONOMIC AREA (22)
Newport News – Hampton, Va. SMSA*
Norfolk – Portsmouth, Va. SMSA*
Non-SMSA Area*
Residual Non-SMSA Area
*Included in Estuary Area as defined

FIGURE 3-27

TABLE 3-103
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 22, NORFOLK-PORTSMOUTH, VA., 1950-1969

ECONOMIC AREA 22
NORFOLK-PORTSMOUTH, VIRGINIA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	838,391	1,050,089	1,138,351	1,194,412	1,218,645
PER CAPITA INCOME (1967$)	1,848	1,970	2,110	2,884	2,953
PER CAPITA INCOME RELATIVE (US=1.00)	.90	.81	.82	.87	.86
TOTAL EMPLOYMENT	342,303	404,307			
EMPLOYMENT/POPULATION RATIO	.41	.39			
EARNINGS PER WORKER (1967$)	3,961	4,456			
EARNINGS PER WORKER RELATIVE(US=1.00)	.88	.83			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,548,989	2,068,616	2,402,417	3,444,736	3,598,846
TOTAL EARNINGS	1,355,802	1,801,410	2,078,901	2,997,231	3,126,099
AGRICULTURE, FORESTRY & FISHERIES	104,374	68,160	86,481	63,548	75,120
AGRICULTURE	96,627	62,104	82,115	60,195	72,587
FORESTRY & FISHERIES	7,743	6,057	4,364	3,354	2,533
MINING	1,169	766	476	372	256
METAL	40	0	21	0	0
COAL	91	0	11	17	23
CRUDE PETROLEUM & NATURAL GAS	0	0	0	2	1
NONMETALLIC, EXCEPT FUELS	1,037	766	444	353	232
CONTRACT CONSTRUCTION	54,801	100,737	118,145	147,047	169,662
MANUFACTURING	168,575	280,243	348,849	468,088	468,891
FOOD & KINDRED PRODUCTS	25,244	39,069	41,058	49,765	50,305
TEXTILE MILL PRODUCTS	3,166	2,025	3,549	7,126	8,617
APPAREL & OTHER FABRIC PRODUCTS	3,388	3,988	5,355	11,627	10,389
LUMBER PRODUCTS & FURNITURE	30,877	27,012	25,725	33,752	36,898
PAPER & ALLIED PRODUCTS	6,991	12,734	13,742	18,834	19,738
PRINTING & PUBLISHING	8,023	13,842	14,029	19,239	19,991
CHEMICALS & ALLIED PRODUCTS	13,213	14,701	17,347	24,601	26,091
PETROLEUM REFINING	0	3,362	2,850	3,751	3,659
PRIMARY METALS	3,421	756	2,195	4,037	4,380
FABRICATED METALS & ORDNANCE	2,707	6,413	6,769	8,377	9,121
MACHINERY, EXCLUDING ELECTRICAL		3,211	5,933	7,597	7,598
ELECTRICAL MACHINERY & SUPPLIES		743	1,795	14,731	15,895
TOTAL MACHINERY (1950 ONLY)	1,899				
MOTOR VEHICLES & EQUIPMENT	10,432	12,367	13,616	37,268	31,761
TRANS. EQUIP., EXCL. MTR. VEHS.	49,623	125,372	179,782	204,678	200,001
OTHER MANUFACTURING	9,589	14,648	15,105	22,706	24,251
TRANS., COMM, & PUBLIC UTILITIES	77,338	108,487	114,828	143,264	148,763
RAILROAD TRANSPORTATION	38,689	34,722	34,514	33,096	32,155
TRUCKING & WAREHOUSING	6,968	16,038	16,873	26,837	28,536
OTHER TRANSPORTATION & SERVICES	19,045	24,787	28,034	39,004	40,583
COMMUNICATIONS	11,624	19,813	22,157	28,995	31,049
UTILITIES (ELEC.,GAS, SANITARY)	1,012	13,129	13,249	15,338	16,440
WHOLESALE & RETAIL TRADE	210,354	266,917	290,667	379,042	396,382
FINANCE, INSURANCE & REAL ESTATE	28,238	54,301	64,186	85,792	89,112
SERVICES	107,952	161,929	196,973	309,650	329,126
LODGING PLACES & PERSONAL SERV.	20,155	28,895	29,355	55,079	55,696
BUSINESS & REPAIR SERVICES	7,134	13,513	18,984	44,949	50,026
AMUSEMENT & RECREATION SERVICES	6,456	7,466	7,460	9,548	9,466
PRIVATE HOUSEHOLDS	33,058	34,322	36,809	32,682	31,648
PROFESSIONAL SERVICES	41,150	77,730	104,362	167,398	182,294
GOVERNMENT	603,000	759,869	858,297	1,400,428	1,448,789
CIVILIAN GOVERNMENT	291,527	373,669	467,109	766,701	802,968
FEDERAL GOVERNMENT	246,566	273,084	331,928	549,694	563,385
STATE & LOCAL GOVERNMENT	44,962	100,585	135,180	217,008	239,581
ARMED FORCES	311,471	386,200	391,188	633,727	645,823

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING

TABLE 3-104
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 22, NORFOLK-PORTSMOUTH, VA., 1980-2020, SERIES C

ECONOMIC AREA 22
NORFOLK-PORTSMOUTH, VIRGINIA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	1,327,915	1,424,255	1,549,150	1,671,668	1,785,728
PER CAPITA INCOME (1967$)	4,211	5,606	7,463	9,834	12,988
PER CAPITA INCOME RELATIVE (US=1.00)	.88	.91	.90	.90	.91
TOTAL EMPLOYMENT	543,688	580,339	629,568	677,517	723,426
EMPLOYMENT/POPULATION RATIO	.41	.41	.41	.41	.41
EARNINGS PER WORKER (1967$)	8,486	11,151	14,656	19,112	24,978
EARNINGS PER WORKER RELATIVE(US=1.00)	.90	.92	.93	.93	.94
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	5,591,518	7,984,022	11,560,979	16,439,407	23,193,472
TOTAL EARNINGS	4,613,983	6,471,156	9,226,893	12,949,001	18,069,887
AGRICULTURE, FORESTRY & FISHERIES	77,545	85,276	101,023	131,146	174,945
AGRICULTURE	72,347	78,748	92,693	120,560	161,723
FORESTRY & FISHERIES	5,199	6,528	8,330	10,586	13,222
MINING	(S)	(S)	(S)	(S)	(S)
METAL	(S)	(S)	(S)	(S)	(S)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(S)	(S)	(S)	(S)	(S)
CONTRACT CONSTRUCTION	244,042	346,020	497,802	704,446	986,509
MANUFACTURING	701,010	971,856	1,392,224	1,975,514	2,821,539
FOOD & KINDRED PRODUCTS	63,549	77,454	95,657	116,906	143,955
TEXTILE MILL PRODUCTS	13,116	18,273	25,845	35,814	50,021
APPAREL & OTHER FABRIC PRODUCTS	16,800	24,222	35,756	51,353	74,432
LUMBER PRODUCTS & FURNITURE	49,886	63,917	84,548	111,140	148,201
PAPER & ALLIED PRODUCTS	31,555	46,853	71,336	106,660	159,360
PRINTING & PUBLISHING	29,795	42,889	62,413	89,142	127,742
CHEMICALS & ALLIED PRODUCTS	43,351	65,527	100,950	152,425	228,947
PETROLEUM REFINING	4,660	5,772	7,324	9,165	11,760
PRIMARY METALS	6,819	9,585	13,795	19,238	26,808
FABRICATED METALS & ORDNANCE	17,435	28,944	49,092	80,677	130,429
MACHINERY, EXCLUDING ELECTRICAL	14,610	25,472	44,793	75,529	125,898
ELECTRICAL MACHINERY & SUPPLIES	28,983	47,914	79,272	127,123	200,485
MOTOR VEHICLES & EQUIPMENT	27,921	36,314	49,273	65,777	88,917
TRANS. EQUIP., EXCL. MTR. VEHS.	312,862	418,778	580,002	795,403	1,095,408
OTHER MANUFACTURING	39,671	59,943	92,169	139,163	209,675
TRANS., COMM. & PUBLIC UTILITIES	207,859	281,603	391,073	539,681	745,900
RAILROAD TRANSPORTATION	38,126	40,839	43,732	45,481	47,152
TRUCKING & WAREHOUSING	41,081	59,112	86,386	124,774	178,883
OTHER TRANSPORTATION & SERVICES	59,643	82,401	115,737	160,405	221,497
COMMUNICATIONS	45,303	66,024	97,454	141,343	202,888
UTILITIES (ELEC.,GAS, SANITARY)	23,705	33,227	47,764	67,678	95,481
WHOLESALE & RETAIL TRADE	616,673	888,201	1,303,204	1,874,005	2,672,251
FINANCE, INSURANCE & REAL ESTATE	137,800	199,886	295,325	427,494	613,551
SERVICES	544,981	830,218	1,270,789	1,895,739	2,777,277
LODGING PLACES & PERSONAL SERV.	83,917	114,881	160,118	219,986	300,992
BUSINESS & REPAIR SERVICES	84,131	132,191	208,098	316,130	469,460
AMUSEMENT & RECREATION SERVICES	15,482	22,169	32,116	45,596	64,098
PRIVATE HOUSEHOLDS	38,203	42,816	48,349	53,800	60,362
PROFESSIONAL SERVICES	323,249	518,161	822,108	1,260,227	1,882,365
GOVERNMENT	2,083,723	2,867,680	3,974,919	5,400,338	7,277,108
CIVILIAN GOVERNMENT	1,290,713	1,838,793	2,638,108	3,670,463	5,029,854
FEDERAL GOVERNMENT	838,287	1,112,265	1,487,198	1,918,317	2,409,601
STATE & LOCAL GOVERNMENT	452,426	726,528	1,150,909	1,752,146	2,620,253
ARMED FORCES	793,010	1,028,887	1,336,811	1,729,875	2,247,254

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(S) TOO SMALL TO BE PROJECTED

TABLE 3-105
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 22-1, NEWPORT NEWS-HAMPTON, VA. SMSA, 1950-1969

22-1 NEWPORT NEWS-HAMPTON, VIRGINIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	154,805	223,600	245,840	287,669	291,383
PER CAPITA INCOME (1967$)	1,891	2,346	2,528	3,073	3,154
PER CAPITA INCOME RELATIVE (US=1.00)	.92	.96	.98	.93	.92
TOTAL EMPLOYMENT	60,891	88,202			
EMPLOYMENT/POPULATION RATIO	.39	.39			
EARNINGS PER WORKER (1967$)	4,190	5,191			
EARNINGS PER WORKER RELATIVE(US=1.00)	.93	.97			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	292,788	524,630	621,398	883,885	918,895
TOTAL EARNINGS	255,117	457,886	538,527	783,820	811,578
AGRICULTURE, FORESTRY & FISHERIES	3,984	2,585	2,339	1,937	2,069
AGRICULTURE	2,102	1,409	1,578	1,232	1,633
FORESTRY & FISHERIES	1,882	1,176	761	705	436
MINING	25	51	41	54	57
NONMETALLIC, EXCEPT FUELS	25	51	41	54	57
CONTRACT CONSTRUCTION	12,228	30,133	26,569	37,373	39,632
MANUFACTURING	57,669	133,680	186,023	224,866	217,981
FOOD & KINDRED PRODUCTS	2,560	4,059	4,713	5,848	5,723
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	458	538	912	2,423	2,567
LUMBER PRODUCTS & FURNITURE	1,176	1,249	1,013	2,674	2,821
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	91				
MOTOR VEHICLES & EQUIPMENT	166	70	84	15,304	13,473
TRANS. EQUIP., EXCL. MTR. VEHS.	43,617	111,745	162,243	176,775	171,902
OTHER MANUFACTURING	5,561	4,489	4,826	6,737	6,990
TRANS., COMM. & PUBLIC UTILITIES	13,596	20,679	22,756	25,447	26,258
RAILROAD TRANSPORTATION	7,198	8,620	8,591	6,966	6,266
TRUCKING & WAREHOUSING	958	1,771	1,938	3,396	2,747
OTHER TRANSPORTATION & SERVICES	3,105	2,950	3,933	5,184	6,573
COMMUNICATIONS	2,335	3,984	5,147	6,454	7,003
UTILITIES (ELEC.,GAS, SANITARY)	0	3,354	3,146	3,447	3,670
WHOLESALE & RETAIL TRADE	36,534	49,707	55,243	74,523	78,116
FINANCE, INSURANCE & REAL ESTATE	6,066	11,188	13,772	20,030	20,433
SERVICES	22,053	36,689	46,192	74,525	80,732
LODGING PLACES & PERSONAL SERV.	3,777	6,185	5,985	10,746	10,978
BUSINESS & REPAIR SERVICES	1,318	3,625	5,116	12,767	15,499
AMUSEMENT & RECREATION SERVICES	994	1,309	1,639	2,327	2,055
PRIVATE HOUSEHOLDS	6,378	7,685	8,542	6,952	6,732
PROFESSIONAL SERVICES	9,587	17,885	24,909	41,733	45,468
GOVERNMENT	102,962	173,174	185,592	325,064	346,699
CIVILIAN GOVERNMENT	49,162	84,706	106,656	178,571	185,668
FEDERAL GOVERNMENT	46,269	61,887	80,351	136,945	139,427
STATE & LOCAL GOVERNMENT	2,892	22,819	26,304	41,626	46,241
ARMED FORCES	53,800	88,469	78,936	146,493	161,031

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-106
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 22-1, NEWPORT NEWS-HAMPTON, VA. SMSA, 1980-2020, SERIES C

22-1 NEWPORT NEWS-HAMPTON, VIRGINIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	330,761	362,568	401,614	439,811	475,114
PER CAPITA INCOME (1967$)	4,576	6,021	7,939	10,380	13,628
PER CAPITA INCOME RELATIVE (US=1.00)	.96	.98	.96	.95	.96
TOTAL EMPLOYMENT	127,868	140,567	156,258	171,491	185,856
EMPLOYMENT/POPULATION RATIO	.39	.39	.39	.39	.39
EARNINGS PER WORKER (1967$)	9,571	12,312	15,926	20,512	26,578
EARNINGS PER WORKER RELATIVE(US=1.00)	1.02	1.01	1.01	1.00	1.00
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	1,513,404	2,183,063	3,188,383	4,565,369	6,475,062
TOTAL EARNINGS	1,223,828	1,730,609	2,488,542	3,517,658	4,939,669
AGRICULTURE, FORESTRY & FISHERIES	2,522	2,869	3,551	4,593	5,966
AGRICULTURE	1,374	1,401	1,649	2,144	2,876
FORESTRY & FISHERIES	1,148	1,468	1,903	2,449	3,090
MINING	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(S)	(S)	(S)	(S)	(S)
CONTRACT CONSTRUCTION	68,678	101,470	151,280	220,850	317,857
MANUFACTURING	329,990	446,205	622,316	859,263	1,190,765
FOOD & KINDRED PRODUCTS	8,134	10,431	13,422	16,939	21,361
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	3,584	5,260	7,882	11,452	16,725
LUMBER PRODUCTS & FURNITURE	4,355	5,830	7,998	10,828	14,776
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	279,705	375,440	521,169	716,018	987,458
OTHER MANUFACTURING	10,658	15,212	22,220	32,120	46,680
TRANS., COMM. & PUBLIC UTILITIES	38,669	53,238	74,677	103,581	143,469
RAILROAD TRANSPORTATION	9,023	10,206	11,412	12,276	13,058
TRUCKING & WAREHOUSING	4,702	6,775	9,903	14,286	20,429
OTHER TRANSPORTATION & SERVICES	9,045	12,962	18,759	26,625	37,427
COMMUNICATIONS	10,435	15,484	23,187	34,005	49,204
UTILITIES (ELEC.,GAS, SANITARY)	5,463	7,811	11,416	16,389	23,351
WHOLESALE & RETAIL TRADE	132,834	202,904	313,348	471,198	698,636
FINANCE, INSURANCE & REAL ESTATE	34,770	52,807	80,999	120,791	177,297
SERVICES	138,079	217,684	342,880	523,768	782,378
LODGING PLACES & PERSONAL SERV.	17,263	24,378	34,862	48,889	67,932
BUSINESS & REPAIR SERVICES	24,543	39,295	62,844	96,688	144,969
AMUSEMENT & RECREATION SERVICES	4,072	6,110	9,198	13,461	19,361
PRIVATE HOUSEHOLDS	8,465	9,723	11,204	12,671	14,392
PROFESSIONAL SERVICES	83,737	138,177	224,772	352,060	535,724
GOVERNMENT	478,238	653,368	899,408	1,213,508	1,623,160
CIVILIAN GOVERNMENT	295,089	416,140	591,621	815,687	1,106,811
FEDERAL GOVERNMENT	208,578	276,254	368,808	475,131	596,331
STATE & LOCAL GOVERNMENT	86,510	139,886	222,813	340,555	510,480
ARMED FORCES	183,149	237,228	307,787	397,822	516,349

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-107
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 22-2, NORFOLK-PORTSMOUTH, VA. SMSA, 1950-1969

22-2 NORFOLK-PORTSMOUTH, VIRGINIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	445,706	576,182	632,289	646,057	667,188
PER CAPITA INCOME (1967$)	2,161	2,075	2,172	3,101	3,103
PER CAPITA INCOME RELATIVE (US=1.00)	1.05	.85	.84	.93	.90
TOTAL EMPLOYMENT	199,271	231,430			
EMPLOYMENT/POPULATION RATIO	.45	.40			
EARNINGS PER WORKER (1967$)	4,252	4,540			
EARNINGS PER WORKER RELATIVE(US=1.00)	.94	.85			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	963,281	1,195,328	1,373,322	2,003,658	2,070,131
TOTAL EARNINGS	847,344	1,050,639	1,201,705	1,773,135	1,829,522
AGRICULTURE, FORESTRY & FISHERIES	10,496	9,067	11,427	8,393	8,849
AGRICULTURE	9,763	8,834	11,287	8,275	8,749
FORESTRY & FISHERIES	733	234	140	118	100
MINING	(D)	(D)	(D)	(D)	(D)
METAL	40	0	21	0	0
COAL	91	0	11	17	23
CRUDE PETROLEUM & NATURAL GAS	0	0	0	2	1
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	34,034	59,708	79,649	90,672	97,508
MANUFACTURING	66,594	79,952	97,074	140,866	138,839
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	7,264	5,966	9,020	12,280	13,330
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		(D)	(D)	(D)	(D)
TOTAL MACHINERY (1950 ONLY)	1,219				
MOTOR VEHICLES & EQUIPMENT	10,237	12,253	13,452	21,716	17,971
TRANS. EQUIP., EXCL. MTR. VEHS.	5,189	8,168	14,255	26,595	26,635
OTHER MANUFACTURING	3,189	8,473	9,036	13,668	15,346
TRANS., COMM. & PUBLIC UTILITIES	58,003	80,961	82,574	105,057	108,663
RAILROAD TRANSPORTATION	28,412	23,300	23,237	23,494	23,281
TRUCKING & WAREHOUSING	5,299	12,955	13,239	20,446	22,230
OTHER TRANSPORTATION & SERVICES	15,602	21,577	23,718	33,291	33,451
COMMUNICATIONS	7,974	13,641	14,381	18,383	19,579
UTILITIES (ELEC.,GAS, SANITARY)	717	9,489	7,999	9,444	10,122
WHOLESALE & RETAIL TRADE	131,646	167,820	182,483	236,527	250,131
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	66,088	95,449	115,481	181,206	192,613
LODGING PLACES & PERSONAL SERV.	14,047	18,281	19,838	28,891	29,421
BUSINESS & REPAIR SERVICES	5,061	8,649	12,473	28,406	30,447
AMUSEMENT & RECREATION SERVICES	4,834	5,807	5,408	6,251	6,569
PRIVATE HOUSEHOLDS	19,217	16,781	17,708	16,551	16,027
PROFESSIONAL SERVICES	22,930	45,932	60,057	101,107	110,149
GOVERNMENT	461,816	522,185	595,487	953,626	973,461
CIVILIAN GOVERNMENT	212,209	233,058	291,578	477,380	499,641
FEDERAL GOVERNMENT	192,927	191,352	236,718	388,219	398,870
STATE & LOCAL GOVERNMENT	19,283	41,706	54,859	89,162	100,770
ARMED FORCES	249,607	289,127	303,910	476,246	473,821

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-108
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 22-2, NORFOLK-PORTSMOUTH, VA. SMSA, 1980-2020, SERIES C

22-2 NORFOLK-PORTSMOUTH, VIRGINIA SMSA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	719,335	769,792	835,654	900,305	960,476
PER CAPITA INCOME (1967$)	4,438	5,865	7,761	10,176	13,389
PER CAPITA INCOME RELATIVE (US=1.00)	.93	.95	.94	.93	.94
TOTAL EMPLOYMENT	306,688	325,342	351,057	376,117	400,213
EMPLOYMENT/POPULATION RATIO	.43	.42	.42	.42	.42
EARNINGS PER WORKER (1967$)	8,720	11,418	14,917	19,306	25,006
EARNINGS PER WORKER RELATIVE(US=1.00)	.93	.94	.94	.94	.94
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	3,192,222	4,514,647	6,485,396	9,161,443	12,860,173
TOTAL EARNINGS	2,674,404	3,714,839	5,236,870	7,261,375	10,007,832
AGRICULTURE, FORESTRY & FISHERIES	10,763	10,999	12,958	16,838	22,555
AGRICULTURE	10,623	10,829	12,747	16,579	22,240
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(D)	(D)	(D)	(D)	(D)
METAL	(S)	(S)	(S)	(S)	(S)
COAL	(S)	(S)	(S)	(S)	(S)
CRUDE PETROLEUM & NATURAL GAS	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	151,091	212,592	303,508	426,294	592,741
MANUFACTURING	207,114	290,854	423,539	610,562	888,650
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	18,510	24,267	32,733	43,738	59,099
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	(D)	(D)	(D)	(D)	(D)
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PETROLEUM REFINING	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	(D)	(D)	(D)	(D)	(D)
MOTOR VEHICLES & EQUIPMENT	27,628	35,930	48,741	65,059	87,935
TRANS, EQUIP,, EXCL, MTR, VEHS,	31,441	41,242	56,119	75,834	103,224
OTHER MANUFACTURING	24,960	38,711	60,769	93,256	141,986
TRANS,, COMM, & PUBLIC UTILITIES	149,456	199,950	274,650	375,508	514,997
RAILROAD TRANSPORTATION	25,871	27,062	28,371	28,954	29,532
TRUCKING & WAREHOUSING	31,436	44,725	64,674	92,489	131,371
OTHER TRANSPORTATION & SERVICES	49,982	68,625	95,880	132,312	182,108
COMMUNICATIONS	27,714	39,436	57,023	81,306	115,161
UTILITIES (ELEC,,GAS, SANITARY)	14,453	20,101	28,701	40,446	56,825
WHOLESALE & RETAIL TRADE	375,851	533,741	772,731	1,097,463	1,547,390
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	318,834	486,091	744,669	1,111,701	1,629,373
LODGING PLACES & PERSONAL SERV,	41,295	54,059	72,411	96,190	128,148
BUSINESS & REPAIR SERVICES	52,292	81,166	126,436	190,414	280,878
AMUSEMENT & RECREATION SERVICES	9,996	14,033	19,986	27,973	38,897
PRIVATE HOUSEHOLDS	19,049	21,110	23,615	26,075	29,079
PROFESSIONAL SERVICES	196,202	315,722	502,222	771,049	1,152,371
GOVERNMENT	1,371,928	1,852,976	2,518,701	3,356,534	4,432,798
CIVILIAN GOVERNMENT	777,778	1,083,387	1,520,212	2,065,961	2,757,714
FEDERAL GOVERNMENT	596,694	794,932	1,066,524	1,379,570	1,736,754
STATE & LOCAL GOVERNMENT	181,084	288,455	453,688	686,391	1,020,960
ARMED FORCES	594,151	769,588	998,489	1,290,573	1,675,085

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-109
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 22-3, VIRGINIA NON-SMSA AREA, 1950-1969

22-3 VIRGINIA NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	122,348	137,728	144,945	149,035	149,042
PER CAPITA INCOME (1967$)	1,332	1,545	1,696	2,370	2,586
PER CAPITA INCOME RELATIVE (US=1.00)	.65	.63	.66	.71	.75
TOTAL EMPLOYMENT	42,708	47,918			
EMPLOYMENT/POPULATION RATIO	.35	.35			
EARNINGS PER WORKER (1967$)	3,296	3,696			
EARNINGS PER WORKER RELATIVE(US=1.00)	.73	.69			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	162,934	212,753	245,806	353,163	385,467
TOTAL EARNINGS	140,779	177,116	202,724	277,641	304,473
AGRICULTURE, FORESTRY & FISHERIES	45,475	21,736	27,855	19,365	22,180
AGRICULTURE	40,905	17,834	24,963	17,141	20,455
FORESTRY & FISHERIES	4,568	3,901	2,890	2,224	1,724
MINING	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	5,415	8,004	8,865	13,352	24,353
MANUFACTURING	26,377	45,979	44,470	73,107	80,104
FOOD & KINDRED PRODUCTS	7,992	19,813	18,330	24,023	24,730
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	10,172	10,122	6,136	6,302	7,626
PAPER & ALLIED PRODUCTS	5,879	11,266	12,019	16,852	17,858
PRINTING & PUBLISHING	564	1,035	502	1,018	1,123
CHEMICALS & ALLIED PRODUCTS	191	688	4,504	9,802	10,846
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL		(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES		0	0	10,407	12,609
TOTAL MACHINERY (1950 ONLY)	401				
MOTOR VEHICLES & EQUIPMENT	29	44	49	148	178
TRANS. EQUIP., EXCL. MTR. VEHS.	313	637	481	551	531
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM, & PUBLIC UTILITIES	3,605	4,600	6,383	8,333	8,836
RAILROAD TRANSPORTATION	2,114	2,028	1,999	1,959	1,912
TRUCKING & WAREHOUSING	525	888	1,243	2,056	2,174
OTHER TRANSPORTATION & SERVICES	188	220	225	431	443
COMMUNICATIONS	708	1,249	1,360	2,198	2,356
UTILITIES (ELEC.,GAS, SANITARY)	70	216	1,557	1,692	1,951
WHOLESALE & RETAIL TRADE	24,900	29,033	31,987	41,669	40,976
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	12,092	18,952	23,092	36,541	37,425
LODGING PLACES & PERSONAL SERV.	1,434	3,442	2,452	13,263	12,966
BUSINESS & REPAIR SERVICES	317	545	788	2,103	2,398
AMUSEMENT & RECREATION SERVICES	379	202	246	609	543
PRIVATE HOUSEHOLDS	4,469	5,859	6,293	5,438	5,264
PROFESSIONAL SERVICES	5,491	8,899	13,310	15,132	16,254
GOVERNMENT	19,610	42,738	49,679	80,270	85,356
CIVILIAN GOVERNMENT	18,184	38,076	45,202	74,480	79,415
FEDERAL GOVERNMENT	2,867	15,240	9,012	15,685	15,540
STATE & LOCAL GOVERNMENT	15,316	22,834	36,191	58,797	63,876
ARMED FORCES	1,423	4,662	4,477	5,788	5,941

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-110
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 22-3, VIRGINIA NON-SMSA AREA, 1980-2020, SERIES C

22-3 VIRGINIA NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	165,972	177,413	192,414	207,127	220,851
PER CAPITA INCOME (1967$)	3,380	4,625	6,310	8,475	11,355
PER CAPITA INCOME RELATIVE (US=1.00)	.71	.75	.76	.78	.80
TOTAL EMPLOYMENT	64,030	68,177	73,815	79,314	84,590
EMPLOYMENT/POPULATION RATIO	.39	.38	.38	.38	.38
EARNINGS PER WORKER (1967$)	7,050	9,586	13,073	17,648	23,856
EARNINGS PER WORKER RELATIVE(US=1.00)	.75	.79	.83	.86	.90
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	560,961	820,608	1,214,072	1,755,474	2,507,657
TOTAL EARNINGS	451,394	653,566	964,977	1,399,718	2,018,020
AGRICULTURE, FORESTRY & FISHERIES	20,292	21,285	25,492	32,996	43,610
AGRICULTURE	16,819	16,919	19,915	25,903	34,746
FORESTRY & FISHERIES	3,473	4,367	5,577	7,093	8,864
MINING	(D)	(D)	(D)	(D)	(D)
NONMETALLIC, EXCEPT FUELS	(D)	(D)	(D)	(D)	(D)
CONTRACT CONSTRUCTION	15,130	19,484	25,690	33,583	43,740
MANUFACTURING	117,209	169,278	251,125	368,376	541,912
FOOD & KINDRED PRODUCTS	31,691	39,422	49,519	61,350	76,327
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	(D)	(D)	(D)	(D)	(D)
LUMBER PRODUCTS & FURNITURE	8,695	10,642	13,515	17,163	22,285
PAPER & ALLIED PRODUCTS	28,093	41,485	62,746	93,082	137,832
PRINTING & PUBLISHING	1,620	2,437	3,682	5,413	7,925
CHEMICALS & ALLIED PRODUCTS	18,497	29,112	46,328	71,746	109,806
PRIMARY METALS	(D)	(D)	(D)	(D)	(D)
FABRICATED METALS & ORDNANCE	(D)	(D)	(D)	(D)	(D)
MACHINERY, EXCLUDING ELECTRICAL	(D)	(D)	(D)	(D)	(D)
ELECTRICAL MACHINERY & SUPPLIES	20,734	34,534	57,478	92,605	146,554
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	(S)	(S)	(S)	(S)	(S)
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	12,469	17,340	24,650	34,746	48,959
RAILROAD TRANSPORTATION	2,576	2,948	3,352	3,687	4,028
TRUCKING & WAREHOUSING	3,343	5,074	7,773	11,716	17,456
OTHER TRANSPORTATION & SERVICES	(S)	(S)	(S)	(S)	(S)
COMMUNICATIONS	3,547	5,278	7,930	11,664	16,924
UTILITIES (ELEC.,GAS, SANITARY)	2,519	3,409	4,754	6,565	9,078
WHOLESALE & RETAIL TRADE	66,951	95,212	137,942	195,851	275,597
FINANCE, INSURANCE & REAL ESTATE	(D)	(D)	(D)	(D)	(D)
SERVICES	62,088	90,969	134,106	193,224	274,651
LODGING PLACES & PERSONAL SERV.	22,345	32,469	47,497	67,785	95,401
BUSINESS & REPAIR SERVICES	4,447	7,509	12,512	19,863	30,468
AMUSEMENT & RECREATION SERVICES	1,029	1,511	2,238	3,238	4,613
PRIVATE HOUSEHOLDS	6,494	7,384	8,439	9,484	10,729
PROFESSIONAL SERVICES	27,774	42,096	63,421	92,853	133,440
GOVERNMENT	149,278	228,540	349,184	516,812	755,117
CIVILIAN GOVERNMENT	141,722	218,595	336,106	499,722	732,753
FEDERAL GOVERNMENT	20,946	25,744	32,132	38,977	46,324
STATE & LOCAL GOVERNMENT	120,776	192,851	303,973	460,745	686,429
ARMED FORCES	7,555	9,945	13,078	17,090	22,364

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

TABLE 3-111
DEMOGRAPHIC AND ECONOMIC TRENDS FOR ECONOMIC AREA 22-4, NORTH CAROLINA NON-SMSA AREA, 1950-1969

22-4 NORTH CAROLINA NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED HISTORIC YEARS, 1950 - 1969

	1950	1959	1962	1968	1969
POPULATION, JULY 1	115,532	112,579	115,277	111,651	111,032
PER CAPITA INCOME (1967$)	1,125	1,207	1,404	1,827	2,021
PER CAPITA INCOME RELATIVE (US=1.00)	.55	.49	.54	.55	.59
TOTAL EMPLOYMENT	39,433	36,757			
EMPLOYMENT/POPULATION RATIO	.34	.33			
EARNINGS PER WORKER (1967$)	2,855	3,150			
EARNINGS PER WORKER RELATIVE(US=1.00)	.63	.59			
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	129,986	135,905	161,891	204,030	224,353
TOTAL EARNINGS	112,562	115,769	135,945	162,635	180,726
AGRICULTURE, FORESTRY & FISHERIES	44,419	34,772	44,860	33,853	42,022
AGRICULTURE	43,857	34,027	44,287	33,547	41,750
FORESTRY & FISHERIES	560	746	573	307	273
MINING	6	0	0	38	32
NONMETALLIC, EXCEPT FUELS	6	0	0	38	32
CONTRACT CONSTRUCTION	3,124	2,892	3,062	5,650	8,169
MANUFACTURING	17,935	20,632	21,282	29,249	32,367
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	0	2,271	2,546	3,627	3,810
LUMBER PRODUCTS & FURNITURE	12,265	9,675	9,556	12,496	13,321
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	366	384	474	555	639
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	0	0	561	1,030	1,456
FABRICATED METALS & ORDNANCE	0	0	0	10	16
MACHINERY, EXCLUDING ELECTRICAL		828	1,010	1,952	2,211
ELECTRICAL MACHINERY & SUPPLIES		0	207	1,488	769
TOTAL MACHINERY (1950 ONLY)	188				
MOTOR VEHICLES & EQUIPMENT	0	0	31	100	139
TRANS. EQUIP., EXCL. MTR. VEHS.	504	4,822	2,803	757	1,333
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	2,134	2,247	3,115	4,427	5,006
RAILROAD TRANSPORTATION	965	774	687	677	696
TRUCKING & WAREHOUSING	186	424	453	939	1,385
OTHER TRANSPORTATION & SERVICES	150	40	158	98	116
COMMUNICATIONS	607	939	1,269	1,960	2,111
UTILITIES (ELEC.,GAS, SANITARY)	225	70	547	755	697
WHOLESALE & RETAIL TRADE	17,274	20,357	20,954	26,323	27,159
FINANCE, INSURANCE & REAL ESTATE	1,338	2,260	2,929	4,253	4,344
SERVICES	7,719	10,839	12,208	17,378	18,356
LODGING PLACES & PERSONAL SERV.	897	987	1,080	2,179	2,331
BUSINESS & REPAIR SERVICES	438	694	607	1,673	1,682
AMUSEMENT & RECREATION SERVICES	249	148	167	359	299
PRIVATE HOUSEHOLDS	2,994	3,997	4,266	3,741	3,625
PROFESSIONAL SERVICES	3,142	5,014	6,086	9,426	10,423
GOVERNMENT	18,612	21,772	27,539	41,468	43,273
CIVILIAN GOVERNMENT	11,972	17,829	23,673	36,270	38,244
FEDERAL GOVERNMENT	4,503	4,605	5,847	8,845	9,548
STATE & LOCAL GOVERNMENT	7,471	13,226	17,826	27,423	28,694
ARMED FORCES	6,641	3,942	3,865	5,200	5,030

DATA MAY NOT ADD TO HIGHER LEVEL TOTALS BECAUSE OF ROUNDING
(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA

TABLE 3-112
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 22-4, NORTH CAROLINA NON-SMSA AREA, 1980-2020, SERIES C

22-4 NORTH CAROLINA NON-SMSA AREA

POPULATION, EMPLOYMENT, TOTAL PERSONAL INCOME AND EARNINGS BY SELECTED INDUSTRIES, SELECTED PROJECTED YEARS, 1980 - 2020

	1980	1990	2000	2010	2020
POPULATION, JULY 1	111,847	114,482	119,468	124,425	129,287
PER CAPITA INCOME (1967$)	2,905	4,068	5,634	7,692	10,446
PER CAPITA INCOME RELATIVE (US=1.00)	.61	.66	.68	.71	.73
TOTAL EMPLOYMENT	45,102	46,253	48,438	50,595	52,767
EMPLOYMENT/POPULATION RATIO	.40	.40	.41	.41	.41
EARNINGS PER WORKER (1967$)	5,861	8,046	11,076	15,224	20,929
EARNINGS PER WORKER RELATIVE(US=1.00)	.62	.66	.70	.74	.79
			IN THOUSANDS OF 1967 $		
TOTAL PERSONAL INCOME	324,931	465,704	673,128	957,120	1,350,580
TOTAL EARNINGS	264,356	372,143	536,504	770,251	1,104,366
AGRICULTURE, FORESTRY & FISHERIES	43,968	50,122	59,022	76,718	102,813
AGRICULTURE	43,531	49,599	58,387	75,934	101,861
FORESTRY & FISHERIES	(S)	(S)	(S)	(S)	(S)
MINING	(S)	(S)	(S)	(S)	(S)
NONMETALLIC, EXCEPT FUELS	(S)	(S)	(S)	(S)	(S)
CONTRACT CONSTRUCTION	9,143	12,475	17,325	23,719	32,171
MANUFACTURING	46,698	65,519	95,243	137,313	200,212
FOOD & KINDRED PRODUCTS	(D)	(D)	(D)	(D)	(D)
TEXTILE MILL PRODUCTS	(D)	(D)	(D)	(D)	(D)
APPAREL & OTHER FABRIC PRODUCTS	4,892	6,728	9,524	13,203	18,583
LUMBER PRODUCTS & FURNITURE	18,326	23,178	30,302	39,411	52,040
PAPER & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRINTING & PUBLISHING	837	1,178	1,679	2,360	3,342
CHEMICALS & ALLIED PRODUCTS	(D)	(D)	(D)	(D)	(D)
PRIMARY METALS	1,839	2,679	3,972	5,670	8,043
FABRICATED METALS & ORDNANCE	(S)	(S)	(S)	(S)	(S)
MACHINERY, EXCLUDING ELECTRICAL	3,866	6,876	12,292	20,994	35,331
ELECTRICAL MACHINERY & SUPPLIES	3,309	5,873	10,284	17,231	28,069
MOTOR VEHICLES & EQUIPMENT	(S)	(S)	(S)	(S)	(S)
TRANS. EQUIP., EXCL. MTR. VEHS.	1,173	1,570	2,175	2,984	4,107
OTHER MANUFACTURING	(D)	(D)	(D)	(D)	(D)
TRANS., COMM. & PUBLIC UTILITIES	7,265	11,076	17,096	25,847	38,475
RAILROAD TRANSPORTATION	(S)	(S)	(S)	(S)	(S)
TRUCKING & WAREHOUSING	1,601	2,538	4,035	6,282	9,627
OTHER TRANSPORTATION & SERVICES	(S)	(S)	(S)	(S)	(S)
COMMUNICATIONS	3,607	5,827	9,315	14,368	21,598
UTILITIES (ELEC.,GAS, SANITARY)	1,270	1,906	2,893	4,278	6,227
WHOLESALE & RETAIL TRADE	41,037	56,344	79,182	109,494	150,628
FINANCE, INSURANCE & REAL ESTATE	5,956	8,299	11,831	16,576	23,089
SERVICES	25,980	35,474	49,133	67,046	90,875
LODGING PLACES & PERSONAL SERV.	3,013	3,976	5,347	7,122	9,512
BUSINESS & REPAIR SERVICES	2,849	4,220	6,306	9,165	13,145
AMUSEMENT & RECREATION SERVICES	(S)	(S)	(S)	(S)	(S)
PRIVATE HOUSEHOLDS	4,195	4,598	5,091	5,570	6,162
PROFESSIONAL SERVICES	15,537	22,166	31,694	44,264	60,829
GOVERNMENT	84,279	132,796	207,626	313,483	466,033
CIVILIAN GOVERNMENT	76,124	120,671	190,169	289,094	432,576
FEDERAL GOVERNMENT	12,069	15,335	19,734	24,639	30,192
STATE & LOCAL GOVERNMENT	64,056	105,336	170,435	264,455	402,384
ARMED FORCES	8,155	12,125	17,457	24,389	33,456

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(D) DELETED TO AVOID DISCLOSURE OF CONFIDENTIAL DATA
(S) TOO SMALL TO BE PROJECTED

ECONOMIC AND DEMOGRAPHIC PROJECTIONS USING SERIES E OBERS PROJECTIONS

The methodology employed in developing the E Series was much the same as that used for Series C. The major differences in the two have already been stated. The Series E projections are provided here for the identical BEA economic areas and SMSA's as those projected with Series C, with the exception that the Richmond and Petersburg-Colonial Heights SMSA's are projected separately. Due to both monetary and time limtations, however, and the fact that the E Series were not the baseline or reference set of projections used in the Future Conditions Report, there were no projections made by BEA for non-SMSA areas or residential non-SMSA areas (non-Estuary areas), as BEA had done with the Series C projections. In addition, BEA's selected projected years for Series E were slightly different from those used in the C Series. Series E projections are presented for the following years: 1950, 1962, 1969, 1970, 1971, 1980, 1985, 1990, 2000, and 2020.

The Series E projections for economic areas and SMSA's are presented in Tables 3-113 through 3-141. Projections for each economic area are introduced by a list (in table form) of SMSA and non-SMSA counties and independent cities within that particular economic area.

COMPARISON OF SERIES C AND SERIES E OBERS PROJECTIONS

As was pointed out earlier in the chapter, certain differences exist between Series C and Series E economic and demographic projections. In order to compare the two series, "population" and "total employment" projections are presented in Tables 3-142 and 3-143 for: (1) the six BEA Economic Areas within which the Estuary Area is included and, (2) the Estuary Area portion of each of these Economic Areas. (There is no portion of Economic Area 16 within the Estuary Area; therefore, it is excluded from Table 3-143).

TABLE 3-113
INDEPENDENT CITY AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 15E - PHILADELPHIA, PA.-N.J.

15-1 Allentown-Bethlehem-Easton, Pa.-N.J. SMSA
- Warren, New Jersey
- Lehigh, Pennsylvania
- Northampton, Pennsylvania

15-2 Atlantic City, N.J. SMSA
- Atlantic, New Jersey

15-3 Philadelphia, Pa.-N.J. SMSA
- Burlington, New Jersey
- Camden, New Jersey
- Gloucester, New Jersey
- Bucks, Pennsylvania
- Chester, Pennsylvania
- Delaware, Pennsylvania
- Montgomery, Pennsylvania
- Philadelphia, Pennsylvania

15-4 Reading, Pa. SMSA
- Berks, Pennsylvania

15-5 Trenton, N.J. SMSA
- Mercer, New Jersey

15-6 Vineland-Millville-Bridgeton, N.J. SMSA
- Cumberland, New Jersey

15-7 Wilmington, Del.-N.J.-Md. SMSA
- Salem, New Jersey
- New Castle, Delaware
- Cecil, Maryland

Non-SMSA Areas
- Cape May, New Jersey
- Ocean, New Jersey
- Carbon, Pennsylvania
- Monroe, Pennsylvania
- Schuylkill, Pennsylvania

TABLE 3-114
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15, PHILADELPHIA, PA.-N.J., 1950-2020, SERIES E

BEA Economic Area 015 Philadelphia, Pa.—N.J. **1972-E OBERS Projections**

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	5,517,385	6,658,844	7,210,689	7,330,792	7,427,302	8,025,400	8,333,600	8,653,700	9,188,300	10,215,200
Per capita income (1967 $)	2,365	2,872	3,689	3,720	3,771	5,000	5,700	6,500	8,500	13,800
Per capita income relative (U.S.=1.00)	1.15	1.11	1.07	1.07	1.06	1.06	1.06	1.05	1.05	1.04
Total employment	2,207,384	2,523,123		2,931,657		3,523,500	3,668,000	3,818,400	4,191,300	4,582,200
Employment/population ratio				.40		.44	.44	.44	.46	.45
Earnings per worker (1967 $)				7,380		9,000	10,100	11,300	14,400	23,400
Earnings per worker relative (U.S.=1.00)				1.04		1.03	1.03	1.03	1.03	1.02
					In Thousands of 1967 Dollars					
Total personal income	13,048,875	19,124,179	26,599,516	27,268,331	28,006,648	40,673,200	47,830,700	56,247,600	78,807,200	141,038,800
Total earnings	10,594,575	15,545,317	21,402,473	21,636,353	21,975,664	31,760,300	37,170,200	43,501,000	60,467,500	107,411,500
Agriculture, forestry and fisheries	274,518	202,632	189,759	183,058	156,897	194,200	199,800	205,600	228,000	285,900
Agriculture			186,260	178,689	152,587	189,100	194,200	199,600	220,800	275,800
Forestry and fisheries			3,502	4,371	4,311	5,100	5,500	5,900	7,100	10,100
Mining	96,077	52,049	54,063	58,838	56,819	63,800	66,200	68,800	77,900	101,500
Metal			(D)	(D)	(D)	9,700	9,800	9,900	10,900	13,400
Coal			(D)	(D)	(D)	21,700	21,000	20,300	21,200	24,800
Crude petroleum and natural gas			1,824	2,030	2,376	3,000	3,300	3,600	4,200	5,500
Nonmetallic, except fuels			21,432	23,256	23,519	29,200	31,900	34,800	41,600	57,700
Contract construction	685,687	875,468	1,319,296	1,380,913	1,408,931	2,046,100	2,362,300	2,727,300	3,668,300	6,084,500
Manufacturing	4,109,538	6,004,685	7,667,791	7,359,034	7,174,629	9,783,400	10,976,800	12,315,800	15,911,100	25,267,200
Food and kindred products			519,816	528,714	531,273	617,100	654,700	694,600	799,800	1,040,300
Textile mill products			275,556	257,975	251,570	256,400	251,700	247,100	262,400	314,200
Apparel and other fabric products			529,480	471,128	455,311	563,900	598,800	635,900	749,800	1,035,700
Lumber products and furniture			112,359	105,909	102,401	134,500	146,500	159,500	194,600	281,500
Paper and allied products			254,213	253,425	246,632	347,000	396,400	452,800	595,700	958,800
Printing and publishing			400,214	392,120	395,512	571,300	657,600	756,900	1,014,800	1,687,600
Chemicals and allied products			986,085	991,852	976,572	1,442,600	1,701,600	2,007,200	2,801,900	4,933,800
Petroleum refining			247,723	250,565	255,824	305,800	326,500	348,500	412,700	573,100
Primary metals			710,918	705,712	662,409	784,100	831,800	882,400	1,013,400	1,330,900
Fabricated metals and ordnance			568,630	526,963	494,589	704,800	782,900	869,600	1,105,800	1,703,600
Machinery, excluding electrical			771,165	721,451	673,884	937,500	1,049,400	1,174,800	1,486,700	2,273,600
Electrical machinery and supplies			888,430	840,269	806,458	1,261,500	1,470,400	1,713,900	2,374,200	4,160,800
Motor vehicles and equipment			320,207	293,088	343,937	463,900	543,400	636,600	863,300	1,445,700
Transportation equip., excl. mtr. vehs			206,808	161,035	131,630	157,600	159,000	160,400	173,800	213,500
Other manufacturing			876,186	858,829	846,629	1,234,700	1,394,600	1,575,100	2,061,400	3,313,500
Trans., comm. and public utilities	845,983	1,083,577	1,341,252	1,379,274	1,433,437	1,997,100	2,327,300	2,712,300	3,723,900	6,449,000
Railroad transportation			214,538	209,313	210,144	198,700	191,400	184,400	171,100	147,600
Trucking and warehousing			362,918	364,833	403,589	585,600	689,800	812,400	1,126,200	1,945,200
Other transportation and services			199,406	201,066	200,389	284,400	331,900	387,200	518,600	840,000
Communications			276,866	292,862	305,506	494,600	610,400	753,300	1,141,100	2,263,400
Utilities (elec., gas, sanitary)			287,526	302,201	313,810	433,400	499,100	574,700	766,700	1,252,600
Wholesale and retail trade	1,943,888	2,535,470	3,350,433	3,423,961	3,526,748	4,922,600	5,617,900	6,411,300	8,586,500	14,053,800
Finance, insurance and real estate	459,207	776,224	1,079,272	1,101,021	1,178,296	1,865,700	2,254,200	2,723,500	3,967,500	7,463,800
Services	1,214,837	2,106,259	3,223,075	3,399,108	3,553,283	5,958,400	7,419,400	9,236,600	14,110,600	28,575,100
Lodging places and personal services			331,533	322,392	318,947	395,000	427,900	463,500	557,400	782,500
Business and repair services			(D)	603,405	609,078	1,082,400	1,363,700	1,718,200	2,689,500	5,590,500
Amusement and recreation services			101,030	109,413	112,694	156,300	180,200	207,600	275,600	445,600
Private households			156,964	154,416	152,667	165,400	168,000	170,500	182,400	217,400
Professional services			(D)	2,209,488	2,359,901	4,159,000	5,270,300	6,678,600	10,405,500	21,538,900
Government	964,845	1,908,957	3,177,531	3,360,151	3,486,627	4,928,800	5,914,500	7,097,400	10,193,300	19,130,400
Federal government	341,691	616,405	909,302	940,717	941,540	1,281,200	1,498,600	1,752,800	2,371,700	4,322,600
State and local government	436,567	965,359	1,780,353	1,931,451	2,069,674	3,152,700	3,855,400	4,714,700	7,018,600	13,495,900
Armed forces	186,586	327,192	487,876	477,984	475,411	494,700	558,200	629,800	802,890	1,311,800

*Employment is for 1960.

TABLE 3-115
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-1, ALLENTOWN-BETHLEHEM-EASTON, PA.-N.J., 1950-2020, SERIES E

SMSA 15-1 **Allentown—Bethlehem—Easton, Pa.—N.J.** **1972-E OBERS Projections**

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	438,565	493,295	538,436	547,083	551,781	578,100	590,700	603,600	624,300	666,800
Per capita income (1967 $)	2,313	2,777	3,520	3,576	3,602	4,800	5,500	6,200	8,200	13,300
Per capita income relative (U.S.=1.00)	1.12	1.07	1.02	1.03	1.02	1.02	1.01	1.01	1.01	1.01
Total employment	182,040	197,603		232,086		268,000	273,800	279,800	297,900	310,300
Employment/population ratio				.42		.46	.46	.46	.48	.47
						In Thousands of *1967 Dollars*				
Total personal income	1,014,228	1,370,111	1,895,189	1,956,313	1,987,488	2,808,700	3,254,700	3,771,600	5,162,000	8,923,500
Total earnings	862,334	1,149,160	1,584,076	1,615,541	1,619,175	2,275,100	2,618,700	3,014,200	4,078,900	6,959,800
Agriculture, forestry and fisheries	24,542a	13,656a	17,171a	18,279a	11,486a	13,400	13,700	14,000	15,500	19,300
Agriculture						13,300	13,600	13,900	15,400	19,200
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	c	c	4,902a	2,823c	1,916d	5,200	5,500	5,900	6,900	9,300
Metal						1,500	1,500	1,600	1,700	2,100
Coal						(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas						(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels						3,500	3,900	4,200	5,000	7,000
Contract construction	41,626	51,900	82,194	86,576	91,376	144,700	167,900	194,700	264,100	443,800
Manufacturing	462,425	602,017	805,004	809,279	784,839	1,021,800	1,127,800	1,244,800	1,554,300	2,322,700
Food and kindred products						65,500	72,400	79,900	97,900	138,400
Textile mill products						44,000	43,900	43,700	47,600	59,500
Apparel and other fabric products						123,400	133,300	144,000	173,900	245,600
Lumber products and furniture						6,100	6,400	6,700	7,700	10,000
Paper and allied products						27,700	31,600	36,100	47,500	76,500
Printing and publishing						42,800	50,700	60,100	84,400	149,200
Chemicals and allied products						39,900	47,000	55,300	76,900	134,700
Petroleum refining						1,900	2,100	2,300	3,000	4,600
Primary metals						243,900	258,700	274,300	314,900	413,000
Fabricated metals and ordnance						62,900	72,000	82,600	110,300	181,900
Machinery, excluding electrical						114,500	128,700	144,800	184,700	286,400
Electrical machinery and supplies						90,500	102,400	115,900	151,100	231,600
Motor vehicles and equipment						69,100	80,800	94,600	128,100	214,200
Transportation equip., excl. mtr. vehs.						2,400	2,500	2,500	2,700	3,300
Other manufacturing						86,400	93,500	101,300	122,900	173,300
Trans., comm. and public utilities	74,052	77,805	118,583	117,909	119,930	152,000	173,600	198,300	264,400	442,400
Railroad transportation						22,700	21,500	20,400	18,400	15,200
Trucking and warehousing						46,900	55,100	64,900	89,800	154,900
Other transportation and services						8,800	10,500	12,500	17,200	29,100
Communications						28,600	35,600	44,400	68,300	137,800
Utilities (elec., gas, sanitary)						44,900	50,100	55,900	70,400	105,300
Wholesale and retail trade	132,950	165,526	211,693	217,791	229,581	322,700	367,400	418,300	557,300	904,000
Finance, insurance and real estate	16,208	34,665	47,744	48,523	49,023	88,600	110,800	138,600	214,400	446,000
Services	64,740	118,602	183,916	193,153	205,822	350,200	436,400	543,800	830,700	1,677,800
Lodging places and personal services						24,400	26,600	29,000	35,200	50,100
Business and repair services						65,000	83,200	106,500	171,000	368,600
Amusement and recreation services						6,900	7,700	8,500	10,500	15,000
Private households						7,100	7,300	7,600	8,400	10,600
Professional services						246,500	310,900	392,100	605,500	1,233,300
Government	38,365	79,072	110,288	115,806	119,469	176,100	212,100	255,400	370,900	694,000
Federal government	5,662	9,094	14,041	14,472	14,736	15,900	16,800	17,800	19,700	24,400
State and local government	30,319	65,680	90,745	95,726	98,700	154,400	188,500	230,100	341,700	654,100
Armed forces	2,385	4,299	5,501	5,608	6,033	5,800	6,500	7,400	9,400	15,400

*Employment is for 1960.
a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-116

DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-2,
ATLANTIC CITY, N.J., 1950-2020, SERIES E

SMSA 15-2 Atlantic City, N.J.

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	133,403	165,211	174,603	175,824	180,300	189,200	194,300	199,600	207,400	221,200
Per capita income (1967 $)	1,985	2,453	3,147	3,259	3,316	4,500	5,100	5,800	7,700	12,700
Per capita income relative (U.S. = 1.00)	.96	.95	.92	.94	.94	.94	.95	.95	.95	.96
Total employment	52,104	60,312		66,453		79,000	81,500	84,200	90,900	96,000
Employment/population ratio				.38		.42	.42	.42	.44	.43
					In Thousands of 1967 Dollars					
Total personal income	264,826	405,268	549,490	572,955	597,882	853,600	998,000	1,166,700	1,615,800	2,821,000
Total earnings	218,847	313,427	419,632	431,050	444,537	631,300	736,400	859,000	1,185,900	2,072,100
Agriculture, forestry and fisheries	12,154	11,905	8,724	8,058	7,559	9,500	9,800	10,100	11,300	14,300
Agriculture						8,500	8,800	9,000	9,900	12,400
Forestry and fisheries						900	1,000	1,100	1,300	1,800
Mining	72	215	71	52	58	(S)	(S)	(S)	(S)	(S)
Metal										
Coal										
Crude petroleum and natural gas						(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels						(S)	(S)	(S)	(S)	(S)
Contract construction	16,445	23,939	34,502	37,333	36,205	48,600	54,300	60,700	77,100	117,400
Manufacturing	28,367	44,102	68,577	62,158	60,160	88,200	100,900	115,500	154,800	258,900
Food and kindred products						9,300	9,700	10,200	11,400	14,400
Textile mill products						(S)	(S)	(S)	(S)	(S)
Apparel and other fabric products						19,700	20,700	21,600	24,800	32,400
Lumber products and furniture						2,400	2,800	3,200	4,200	6,900
Paper and allied products						(S)	(S)	(S)	(S)	(S)
Printing and publishing						5,000	5,600	6,300	8,000	12,400
Chemicals and allied products						4,400	5,600	7,100	11,000	22,000
Petroleum refining						(S)	(S)	(S)	(S)	(S)
Primary metals						(S)	(S)	(S)	(S)	(S)
Fabricated metals and ordnance						1,200	1,300	1,300	1,500	1,900
Machinery, excluding electrical						1,800	2,200	2,600	3,600	6,700
Electrical machinery and supplies						(S)	(S)	(S)	(S)	(S)
Motor vehicles and equipment						(S)	(S)	(S)	(S)	(S)
Transportation equip., excl. mtr. vehs.						4,600	4,900	5,300	6,200	8,600
Other manufacturing						37,900	46,000	55,900	81,400	149,900
Trans., comm. and public utilities	16,429	26,655	29,627	31,378	33,397	45,200	52,300	60,700	82,400	139,600
Railroad transportation						2,800	2,900	2,900	3,000	2,900
Trucking and warehousing						6,000	7,000	8,100	10,900	18,100
Other transportation and services						4,200	4,700	5,400	6,800	10,000
Communications						14,400	17,800	22,000	33,400	66,200
Utilities (elec., gas, sanitary)						17,500	19,600	22,000	28,100	42,200
Wholesale and retail trade	52,559	71,686	89,887	92,552	95,537	136,100	155,400	177,500	237,700	388,400
Finance, insurance and real estate	11,557	21,701	25,045	26,785	28,830	44,300	53,200	64,000	92,200	170,300
Services	55,165	62,535	84,328	86,233	89,354	131,100	157,100	188,200	271,700	510,800
Lodging places and personal services						28,300	29,400	30,500	34,000	42,500
Business and repair services						15,200	19,100	24,000	37,300	76,600
Amusement and recreation services						12,300	14,300	16,600	22,300	36,600
Private households						2,200	2,200	2,100	2,100	2,200
Professional services						72,800	91,400	114,800	175,800	352,800
Government	26,100	50,689	78,872	86,502	93,438	128,000	152,600	182,000	258,200	471,800
Federal government	4,630	19,224	25,661	28,484	29,989	34,500	39,800	45,800	60,400	105,900
State and local government	15,119	29,304	50,401	55,058	60,313	90,900	109,900	132,800	193,600	359,000
Armed forces	6,351	2,160	2,810	2,960	3,136	2,500	2,800	3,200	4,100	6,700

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-117
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-3, PHILADELPHIA, PA.-N.J., 1950-2020, SERIES E

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	3,677,748	4,451,631	4,769,714	4,853,204	4,905,144	5,277,800	5,474,500	5,678,500	6,015,800	6,670,200
Per capita income (1967 $)	2,417	2,947	3,781	3,798	3,843	5,100	5,800	6,500	8,600	13,900
Per capita income relative (U.S.=1.00)	1.17	1.14	1.10	1.09	1.08	1.08	1.07	1.07	1.06	1.05
Total employment	1,466,901	1,689,766		1,936,758		2,314,900	2,407,500	2,503,800	2,742,400	2,990,500
Employment/population ratio				.40		.44	.44	.44	.46	.45
						In Thousands of 1967 Dollars				
Total personal income	8,889,832	13,118,910	18,035,731	18,434,717	18,852,682	27,211,700	31,929,700	37,465,700	52,275,400	93,013,400
Total earnings	7,221,434	10,676,254	14,552,127	14,627,411	14,759,129	21,195,500	24,754,500	28,910,900	40,030,700	70,728,300
Agriculture, forestry and fisheries	120,946a	100,158a	77,355a	74,436a	64,587a	92,700	94,600	96,600	107,000	133,700
Agriculture						92,300	94,200	96,200	106,400	132,900
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	7,750a	8,400b	10,377a	13,169a	11,674a	16,200	17,600	19,200	22,800	31,400
Metal						(S)	(S)	(S)	(S)	(S)
Coal						(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas						2,200	2,500	2,700	3,100	4,200
Nonmetallic, except fuels						13,800	15,000	16,400	19,600	27,200
Contract construction	489,688	599,229	909,638	932,054	940,217	1,333,400	1,534,200	1,765,200	2,359,800	3,875,600
Manufacturing	2,650,456	3,946,928	4,876,405	4,629,107	4,432,048	6,001,000	6,698,500	7,477,100	9,588,200	15,097,000
Food and kindred products						429,600	452,000	475,500	539,600	686,900
Textile mill products						129,100	124,700	120,500	124,400	142,500
Apparel and other fabric products						274,700	285,000	295,800	334,200	429,300
Lumber products and furniture						97,500	105,100	113,300	136,000	191,700
Paper and allied products						277,100	316,500	361,400	475,300	764,700
Printing and publishing						425,500	484,600	551,900	726,600	1,175,600
Chemicals and allied products						620,100	730,800	861,300	1,200,400	2,108,600
Petroleum refining						267,000	282,500	298,800	348,500	472,600
Primary metals						389,400	412,900	437,900	502,600	659,200
Fabricated metals and ordnance						506,200	561,600	623,200	790,900	1,215,500
Machinery, excluding electrical						676,100	754,700	842,500	1,059,800	1,600,500
Electrical machinery and supplies						966,100	1,130,500	1,322,900	1,847,500	3,293,000
Motor vehicles and equipment						108,200	126,600	148,200	200,700	335,400
Transportation equip., excl. mtr. vehs.						133,100	133,200	133,300	142,500	171,100
Other manufacturing						700,700	789,500	889,700	1,158,500	1,849,900
Trans., comm. and public utilities	608,078	764,593	912,516	933,504	977,755	1,380,600	1,608,100	1,873,000	2,562,700	4,397,200
Railroad transportation						122,700	118,800	115,100	107,700	94,200
Trucking and warehousing						409,000	480,900	565,300	781,100	1,343,000
Other transportation and services						229,100	265,600	307,900	407,900	650,300
Communications						349,600	428,200	524,600	783,700	1,517,300
Utilities (elec., gas, sanitary)						270,100	311,800	359,900	482,100	792,100
Wholesale and retail trade	1,401,585	1,813,577	2,396,051	2,443,747	2,500,025	3,419,700	3,874,500	4,389,700	5,802,300	9,294,500
Finance, insurance and real estate	367,304	596,944	834,178	844,048	901,845	1,390,000	1,663,100	1,990,000	2,847,600	5,197,300
Services	853,360	1,495,422	2,283,602	2,408,906	2,513,340	4,215,300	5,238,900	6,511,100	9,907,000	19,931,800
Lodging places and personal services						241,500	261,100	282,400	338,700	473,500
Business and repair services						795,400	998,300	1,252,900	1,948,200	4,010,000
Amusement and recreation services						100,200	115,300	132,700	175,700	283,200
Private households						118,000	118,900	119,800	126,300	147,100
Professional services						2,959,900	3,739,000	4,723,100	7,318,000	15,017,700
Government	717,832	1,345,262	2,244,740	2,344,338	2,409,635	3,346,400	4,003,100	4,788,600	6,833,000	12,769,300
Federal government	294,373	507,768	742,942	763,432	759,095	1,037,400	1,214,600	1,422,000	1,927,000	3,520,200
State and local government	267,632	586,598	1,114,589	1,209,637	1,279,928	1,919,600	2,347,600	2,870,800	4,273,700	8,215,600
Armed forces	155,824	250,896	387,211	371,269	370,613	389,300	439,300	495,700	632,100	1,033,400

*Employment is for 1960.
a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-118
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-4,
READING, PA., 1950-2020, SERIES E

SMSA 15-4 **Reading, Pa.**

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	255,959	285,136	294,336	298,292	300,055	317,100	325,200	333,500	347,300	374,700
Per capita income (1967 $)	2,204	2,573	3,539	3,574	3,646	4,900	5,500	6,300	8,300	13,400
Per capita income relative (U.S.=1.00)	1.07	1.00	1.03	1.03	1.03	1.03	1.03	1.02	1.02	1.02
Total employment	112,939	117,145		131,467		152,200	155,800	159,500	170,500	178,500
Employment/population ratio				.44		.48	.48	.48	.49	.48
						In Thousands of 1967 Dollars				
Total personal income	564,056	733,671	1,041,742	1,066,183	1,093,978	1,557,700	1,810,600	2,104,600	2,897,100	5,051,400
Total earnings	468,176	606,746	855,742	862,622	876,585	1,241,500	1,434,600	1,657,700	2,259,700	3,898,500
Agriculture, forestry and fisheries	20,604	12,840	16,550	16,462	13,231	15,900	16,200	16,500	18,200	22,800
Agriculture						15,800	16,100	16,400	18,100	22,700
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	609	8,311	9,975	9,882	9,597	10,700	11,100	11,600	13,000	16,700
Metal						7,400	7,500	7,700	8,400	10,300
Coal										
Crude petroleum and natural gas						(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels						2,800	3,000	3,300	4,000	5,500
Contract construction	23,105	25,984	39,460	43,405	44,786	70,000	81,100	93,800	126,900	212,400
Manufacturing	245,813	302,046	417,489	401,501	400,890	536,000	599,100	669,700	859,100	1,354,800
Food and kindred products						42,800	46,800	51,200	61,800	85,700
Textile mill products						45,600	45,300	45,000	48,700	59,700
Apparel and other fabric products						30,700	33,900	37,500	46,800	69,100
Lumber products and furniture						13,700	15,400	17,400	22,400	34,900
Paper and allied products						16,800	19,100	21,700	28,300	44,900
Printing and publishing						12,500	14,800	17,600	24,700	43,800
Chemicals and allied products						24,500	29,000	34,400	48,500	86,700
Petroleum refining						4,200	4,800	5,500	7,300	12,400
Primary metals						79,100	83,800	88,900	102,000	133,900
Fabricated metals and ordnance						18,500	19,600	20,800	24,300	32,400
Machinery, excluding electrical						62,000	72,100	83,800	113,800	197,500
Electrical machinery and supplies						79,600	94,700	112,600	161,500	297,900
Motor vehicles and equipment						62,000	70,200	79,400	101,300	154,200
Transportation equip., excl. mtr. vehs.						(S)	(S)	(S)	(S)	(S)
Other manufacturing						43,300	47,900	53,000	66,900	101,000
Trans., comm. and public utilities	29,739	37,162	51,758	53,599	54,628	71,300	82,200	94,800	128,200	217,300
Railroad transportation						8,300	7,700	7,200	6,400	5,100
Trucking and warehousing						26,300	31,000	36,600	50,800	87,800
Other transportation and services						4,000	4,700	5,500	7,300	11,700
Communications						10,900	13,400	16,500	24,900	49,000
Utilities (elec., gas, sanitary)						21,600	25,000	28,800	38,600	63,400
Wholesale and retail trade	69,723	86,756	110,986	116,605	121,628	165,300	186,400	210,200	275,500	433,100
Finance, insurance and real estate	12,752	24,480	33,144	32,882	35,912	60,500	74,300	91,200	136,200	264,300
Services	47,851	67,210	106,406	113,429	118,353	199,200	248,000	308,900	471,600	953,700
Lodging places and personal services						13,800	14,800	16,000	19,000	26,100
Business and repair services						34,900	44,600	57,100	91,700	197,700
Amusement and recreation services						5,700	6,500	7,500	10,000	16,100
Private households						4,500	4,700	5,000	5,600	7,300
Professional services						140,100	176,800	223,100	345,100	706,400
Government	17,980	41,957	69,974	74,856	77,561	112,200	134,300	160,700	230,600	423,100
Federal government	3,585	4,987	8,143	8,252	8,197	8,900	9,400	10,000	10,900	13,200
State and local government	12,632	34,829	59,122	63,830	66,396	100,500	121,600	147,100	215,000	402,300
Armed forces	1,762	2,141	2,709	2,774	2,967	2,800	3,200	3,600	4,600	7,500

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-119
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-5, TRENTON, N.J., 1950-2020, SERIES E

SMSA 15-5 Trenton, N.J.

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	231,524	277,768	305,795	305,223	310,600	358,300	383,400	410,200	459,400	552,000
Per capita income (1967 $)	2,480	2,888	3,839	3,942	4,048	5,400	6,000	6,800	9,000	14,300
Per capita income relative (U.S. = 1.00)	1.20	1.12	1.12	1.13	1.14	1.13	1.12	1.12	1.10	1.09
Total employment	97,900	109,334		128,806		165,200	176,900	189,300	218,200	255,900
Employment/population ratio				.42		.46	.46	.46	.47	.46
						In Thousands of 1967 Dollars				
Total personal income	574,204	802,146	1,173,882	1,203,044	1,257,322	1,935,300	2,336,900	2,821,700	4,143,300	7,930,300
Total earnings	497,946	738,483	1,037,804	1,066,773	1,116,631	1,709,700	2,041,100	2,436,700	3,508,500	6,536,800
Agriculture, forestry and fisheries	6,963a	3,813b	6,680	3,035c	2,601c	6,100	6,200	6,400	7,100	8,800
Agriculture						6,100	6,200	6,400	7,100	8,800
Forestry and fisheries										
Mining	e	e	308	e	e	(S)	(S)	(S)	(S)	(S)
Metal										
Coal										
Crude petroleum and natural gas						(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels						(S)	(S)	(S)	(S)	(S)
Contract construction	25,897	39,185	40,182	45,733	45,805	70,000	81,100	93,800	126,700	211,800
Manufacturing	228,863	271,230	340,849	321,901	331,102	462,400	517,100	578,300	743,900	1,162,700
Food and kindred products						14,000	15,000	16,000	18,700	24,800
Textile mill products						1,400	1,300	1,200	1,100	1,100
Apparel and other fabric products						6,100	6,100	6,100	6,300	7,100
Lumber products and furniture						3,000	3,300	3,700	4,700	7,100
Paper and allied products						8,900	9,800	10,800	13,200	19,000
Printing and publishing						45,300	54,300	65,300	93,500	169,600
Chemicals and allied products						49,200	62,000	78,100	120,500	241,300
Petroleum refining						13,700	15,400	17,400	22,400	34,700
Primary metals						10,900	11,600	12,300	14,100	18,500
Fabricated metals and ordnance						72,900	79,200	86,200	105,500	153,500
Machinery, excluding electrical						49,800	53,800	58,000	68,600	93,400
Electrical machinery and supplies						102,000	115,500	130,700	170,300	261,100
Motor vehicles and equipment						(S)	(S)	(S)	(S)	(S)
Transportation equip., excl. mtr. vehs.						(S)	(S)	(S)	(S)	(S)
Other manufacturing						84,600	88,200	92,000	104,200	130,800
Trans., comm. and public utilities	24,303	43,988	52,951	52,075	53,996	82,100	98,500	118,300	171,100	319,500
Railroad transportation						5,000	4,900	4,900	4,700	4,300
Trucking and warehousing						26,000	30,800	36,600	51,300	90,000
Other transportation and services						2,700	3,000	3,400	4,200	6,000
Communications						31,700	39,900	50,200	78,600	162,200
Utilities (elec., gas, sanitary)						16,600	19,600	23,100	32,200	56,700
Wholesale and retail trade	81,049	107,704	125,775	126,987	132,329	203,200	234,900	271,500	371,100	623,400
Finance, insurance and real estate	13,990	28,831	35,535	38,385	41,083	68,200	84,300	104,300	157,700	311,000
Services	61,459	125,641	205,699	216,929	222,350	380,000	482,700	613,100	965,700	2,037,300
Lodging places and personal services						15,400	16,600	17,900	21,400	29,700
Business and repair services						63,000	80,600	103,100	165,500	336,900
Amusement and recreation services						4,900	6,100	7,600	11,200	20,900
Private households						8,000	8,200	8,300	8,900	10,800
Professional services						288,500	370,600	476,000	758,400	1,618,800
Government	53,873	115,265	229,826	258,577	284,053	436,700	532,700	649,900	963,900	1,860,700
Federal government	3,987	10,954	21,115	25,741	28,083	33,800	38,200	43,100	54,700	90,000
State and local government	47,458	100,382	203,262	227,420	250,244	396,700	487,500	599,000	899,300	1,754,500
Armed forces	2,429	3,929	5,449	5,416	5,726	6,000	6,800	7,700	9,800	16,100

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-120

DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-6,

SMSA 15-6 Vineland—Millville—Bridgeton, N.J. VINELAND-MILLVILLE-BRIDGETON, N.J., 1950-2020, SERIES E

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	89,269	110,482	120,722	121,847	126,700	149,200	157,200	165,600	179,800	203,700
Per capita income (1967 $)	2,084	2,664	3,275	3,346	3,347	4,500	5,100	5,800	7,800	12,800
Per capita income relative (U.S.=1.00)	1.01	1.03	.95	.96	.94	.95	.95	.96	.96	.97
Total employment	35,559	41,557		47,352		63,900	67,600	71,500	80,400	89,900
Employment/population ratio				.39		43	.43	.43	.45	.44
						In Thousands of 1967 Dollars				
Total personal income	186,041	294,338	395,377	407,644	424,023	678,700	813,700	975,500	1,409,800	2,611,500
Total earnings	161,953	257,472	343,787	348,678	361,066	574,900	683,000	811,400	1,154,600	2,096,100
Agriculture, forestry and fisheries	26,513	21,429	16,869	16,264	14,148	20,100	20,700	21,300	23,700	29,900
Agriculture						18,700	19,200	19,700	21,800	27,200
Forestry and fisheries						1,400	1,500	1,600	1,900	2,700
Mining	1,793	3,128	3,320	3,455	3,660	4,200	4,600	5,000	6,000	8,300
Metal										
Coal										
Crude petroleum and natural gas						(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels						4,200	4,600	5,000	6,000	8,300
Contract construction	7,052	12,906	16,800	17,148	19,110	34,700	41,400	49,500	70,400	126,000
Manufacturing	70,678	115,460	153,402	150,507	148,960	232,200	269,200	312,000	425,900	728,800
Food and kindred products						25,900	27,000	28,100	31,400	38,900
Textile mill products						6,500	6,500	6,600	7,300	9,200
Apparel and other fabric products						20,700	22,400	24,100	29,100	41,700
Lumber products and furniture						1,300	1,400	1,400	1,600	2,000
Paper and allied products						3,100	3,800	4,700	6,800	12,500
Printing and publishing						8,100	9,900	12,100	17,800	33,300
Chemicals and allied products						4,500	5,700	7,200	11,400	24,500
Petroleum refining						(S)	(S)	(S)	(S)	(S)
Primary metals						1,000	1,100	1,200	1,400	1,800
Fabricated metals and ordnance						5,900	7,500	9,700	14,900	28,700
Machinery, excluding electrical						7,400	8,300	9,300	11,800	18,000
Electrical machinery and supplies						(S)	(S)	(S)	(S)	(S)
Motor vehicles and equipment						1,700	2,000	2,300	3,100	5,300
Transportation equip., excl. mtr. vehs.						(S)	(S)	(S)	(S)	(S)
Other manufacturing						144,300	171,300	203,500	287,300	510,100
Trans., comm. and public utilities	8,371	18,686	28,189	30,483	33,189	48,000	57,500	69,000	98,400	177,600
Railroad transportation						2,800	2,800	2,900	3,000	2,900
Trucking and warehousing						22,800	27,500	33,300	48,300	88,600
Other transportation and services						11,300	13,600	16,400	23,100	40,100
Communications						8,100	10,000	12,500	19,200	38,900
Utilities (elec., gas, sanitary)						2,900	3,300	3,700	4,600	6,900
Wholesale and retail trade	23,396	32,628	44,456	45,087	47,547	78,400	93,900	112,500	162,300	292,600
Finance, insurance and real estate	2,661	8,060	12,943	12,908	14,987	31,100	40,300	52,200	84,500	180,800
Services	12,065	20,881	30,372	31,692	34,683	58,600	72,800	90,300	137,000	274,200
Lodging places and personal services						4,300	4,700	5,200	6,400	9,300
Business and repair services						12,000	14,800	18,200	27,300	52,800
Amusement and recreation services						1,000	1,100	1,300	1,700	2,800
Private households						1,400	1,500	1,500	1,600	2,000
Professional services						39,700	50,400	63,900	99,800	207,100
Government	9,425	24,294	37,436	41,135	44,782	67,200	81,700	99,200	146,000	277,600
Federal government	784	2,221	2,379	2,656	2,551	3,000	3,300	3,600	4,200	5,800
State and local government	8,049	21,071	33,775	37,136	40,797	62,600	76,600	93,600	139,300	267,600
Armed forces	592	1,002	1,282	1,344	1,434	1,500	1,700	1,900	2,400	4,000

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-121
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 15-7, WILMINGTON, DEL.-N.J.-MD., 1950-2020, SERIES E

SMSA 15-7 **Wilmington, Del.—N.J.—Md.** **1972-E OBERS Projections**

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	304,295	432,944	492,101	501,198	506,749	569,500	606,100	645,100	712,200	841,000
Per capita income (1967 $)	2,924	3,341	4,152	4,154	4,276	5,600	6,300	7,200	9,400	14,800
Per capita income relative (U.S.=1.00)	1.42	1.29	1.21	1.20	1.21	1.19	1.18	1.17	1.15	1.12
Total employment	117,828	157,488		198,289		247,600	264,400	282,200	322,400	374,800
Employment/population ratio				.40		.43	.44	.44	.45	.45
					In Thousands of 1967 Dollars					
Total personal income	889,608	1,446,341	2,042,967	2,081,800	2,166,668	3,234,200	3,876,200	4,645,700	6,698,900	12,513,200
Total earnings	657,806	1,148,071	1,666,071	1,706,248	1,778,514	2,647,200	3,150,600	3,749,800	5,343,700	9,835,800
Agriculture, forestry and fisheries	27,100	19,655	26,283	24,909	23,158	28,400	30,200	32,000	35,500	44,400
Agriculture						28,000	29,700	31,600	34,900	43,600
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	350	908	1,016	1,134	1,133	1,200	1,300	1,400	1,700	2,400
Metal										
Coal										
Crude petroleum and natural gas						(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels						1,100	1,300	1,400	1,700	2,300
Contract construction	52,503	74,737	119,121	137,908	146,144	205,200	240,000	280,600	385,400	659,700
Manufacturing	306,478	549,530	756,866	738,916	772,297	1,125,100	1,308,800	1,522,600	2,074,600	3,531,000
Food and kindred products						15,900	16,700	17,500	19,700	24,800
Textile mill products						6,600	6,700	6,700	7,400	9,500
Apparel and other fabric products						5,600	5,100	4,700	4,300	3,900
Lumber products and furniture						2,100	2,300	2,600	3,300	4,900
Paper and allied products						10,100	12,000	14,100	19,500	33,600
Printing and publishing						18,700	22,100	26,000	36,300	64,900
Chemicals and allied products						660,900	775,700	910,400	1,260,000	2,190,700
Petroleum refining						18,600	21,100	23,800	30,900	48,100
Primary metals						22,900	24,300	25,700	29,500	38,800
Fabricated metals and ordnance						23,000	25,700	28,800	37,200	58,400
Machinery, excluding electrical						10,600	11,800	13,300	16,800	25,700
Electrical machinery and supplies						11,300	13,100	15,300	21,300	37,600
Motor vehicles and equipment						222,400	263,100	311,300	429,100	735,300
Transportation equip., excl. mtr. vehs.						8,900	9,500	10,200	12,100	16,600
Other manufacturing						86,900	98,500	111,500	146,600	237,700
Trans., comm. and public utilities	44,599	61,783	82,074	85,259	91,045	126,100	147,400	172,300	239,700	429,300
Railroad transportation						17,000	16,000	15,000	13,300	10,600
Trucking and warehousing						32,600	38,700	45,800	64,200	112,400
Other transportation and services						13,300	16,100	19,600	27,900	49,200
Communications						28,000	35,600	45,100	71,900	154,600
Utilities (elec., gas, sanitary)						34,900	40,300	46,500	62,300	102,200
Wholesale and retail trade	88,620	137,626	209,149	210,275	217,948	323,800	384,900	457,500	658,600	1,218,000
Finance, insurance and real estate	24,829	41,317	63,269	67,402	71,993	121,800	151,500	188,400	288,500	589,600
Services	65,187	130,852	198,584	208,356	215,586	376,600	476,000	601,600	944,700	2,007,200
Lodging places and personal services						24,000	27,000	30,500	39,100	59,800
Business and repair services						71,200	91,200	116,700	187,300	403,900
Amusement and recreation services						14,100	16,300	18,700	24,800	40,000
Private households						18,300	19,200	20,000	22,400	28,400
Professional services						248,700	321,500	415,500	670,800	1,474,800
Government	48,140	131,464	209,709	232,089	239,211	338,600	408,600	493,000	714,500	1,353,800
Federal government	19,611	27,656	40,721	44,078	45,111	65,300	78,300	93,900	132,300	254,900
State and local government	24,661	68,731	121,766	136,510	148,457	229,700	280,900	343,600	511,400	983,200
Armed forces	3,868	35,076	47,222	51,509	45,643	43,500	49,100	55,400	70,700	115,600

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-122
INDEPENDENT CITY AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 16E - HARRISBURG, PA.

16-1 Harrisburg, Pa. SMSA
- Cumberland, Pennsylvania
- Dauphin, Pennsylvania
- Perry, Pennsylvania

16-2 Lancaster, Pa. SMSA
- Lancaster, Pennsylvania

16-3 York, Pa. SMSA
- Adams, Pennsylvania
- York, Pennsylvania

16-4 Altoona, Pa. SMSA
- Blair, Pennsylvania

Non-SMSA Areas
- Bedford, Pennsylvania
- Franklin, Pennsylvania
- Fulton, Pennsylvania
- Huntingdon, Pennsylvania
- Juniata, Pennsylvania
- Lebanon, Pennsylvania
- Mifflin, Pennsylvania
- Montour, Pennsylvania
- Northumberland, Pennsylvania
- Snyder, Pennsylvania
- Union, Pennsylvania

TABLE 3-123

DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16, HARRISBURG, PA., 1950-2020, SERIES E

BEA Economic Area 016 Harrisburg, Pa.

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	1,427,165	1,619,378	1,709,366	1,736,211	1,749,034	1,906,400	1,996,800	2,091,400	2,224,000	2,458,100
Per capita income (1967 $)	1,944	2,337	3,182	3,266	3,320	4,500	5,100	5,800	7,800	12,700
Per capita income relative (U.S.=1.00)	.94	.90	.93	.94	.94	.94	.95	.95	.96	.96
Total employment	550,237	604,123		711,581		857,500	900,500	945,700	1,035,200	1,115,500
Employment/population ratio				.41		.45	.45	.45	.47	.45
Earnings per worker (1967 $)				6,360		7,800	8,900	10,100	12,900	21,400
Earnings per worker relative (U.S.=1.00)				.90		.90	.91	.91	.92	.94
					In Thousands of 1967 Dollars					
Total personal income	2,774,940	3,784,305	5,438,872	5,671,209	5,806,333	8,611,100	10,294,000	12,305,900	17,395,600	31,367,200
Total earnings	2,275,302	3,057,930	4,387,644	4,525,943	4,580,010	6,761,100	8,037,200	9,554,100	13,398,800	23,979,800
Agriculture, forestry and fisheries	194,615	117,125	172,941	173,353	140,938	165,900	171,700	177,600	197,800	249,800
Agriculture			172,638	173,008	140,584	165,500	171,100	177,000	197,100	248,600
Forestry and fisheries			303	347	353	(S)	(S)	(S)	(S)	(S)
Mining	53,537	31,359	24,598	26,893	24,668	26,100	26,400	26,800	29,300	36,500
Metal			(D)	(D)	(D)	6,000	6,100	6,200	6,700	8,300
Coal			(D)	(D)	(D)	5,900	5,700	5,500	5,700	6,700
Crude petroleum and natural gas			65	55	63	(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels			13,088	14,146	12,644	14,000	14,400	14,900	16,600	21,300
Contract construction	117,669	152,625	294,445	324,152	324,745	446,300	523,100	613,100	831,700	1,393,100
Manufacturing	771,507	1,091,383	1,643,254	1,648,109	1,612,579	2,352,700	2,739,000	3,188,800	4,276,400	7,093,600
Food and kindred products			165,645	172,729	177,931	224,200	253,000	285,500	356,800	525,500
Textile mill products			72,538	69,046	68,280	77,500	80,500	83,500	94,600	122,900
Apparel and other fabric products			142,095	134,482	132,374	184,200	201,900	221,400	271,000	392,300
Lumber products and furniture			76,328	73,046	73,672	100,900	114,900	130,900	168,300	259,900
Paper and allied products			66,746	68,720	66,551	102,400	120,300	141,500	192,300	322,900
Printing and publishing			75,931	79,621	81,152	123,600	149,800	181,600	258,600	464,000
Chemicals and allied products			44,410	43,423	46,980	68,900	81,200	95,700	133,500	234,900
Petroleum refining			5,802	5,443	6,118	7,800	8,900	10,200	13,100	20,100
Primary metals			151,217	151,294	146,101	169,900	178,400	187,400	212,600	275,100
Fabricated metals and ordnance			(D)	(D)	(D)	213,200	251,400	296,500	404,900	681,400
Machinery, excluding electrical			223,135	228,772	222,613	345,300	412,900	493,600	674,500	1,136,800
Electrical machinery and supplies			130,633	135,293	128,492	226,500	283,300	354,200	532,600	1,035,000
Motor vehicles and equipment			18,349	17,190	20,547	32,600	40,300	49,900	72,100	130,500
Transportation equip., excl. mtr. vehs.			60,816	63,863	55,073	80,500	97,000	116,900	156,000	249,000
Other manufacturing			(D)	(D)	(D)	394,500	461,300	539,400	734,800	1,242,500
Trans., comm. and public utilities	243,637	264,737	322,892	337,204	353,436	490,900	580,800	687,100	963,600	1,735,400
Railroad transportation			87,647	86,192	87,463	81,300	77,200	73,300	67,600	59,200
Trucking and warehousing			107,982	113,634	124,478	192,100	236,600	291,300	426,600	798,600
Other transportation and services			17,612	20,970	19,030	28,600	34,400	41,400	58,600	101,900
Communications			57,081	60,795	63,914	105,400	132,200	165,900	253,900	510,300
Utilities (elec., gas, sanitary)			52,570	55,615	58,552	83,200	97,900	115,100	156,700	261,300
Wholesale and retail trade	349,713	467,027	633,480	658,259	697,161	998,100	1,160,600	1,349,500	1,835,300	3,068,400
Finance, insurance and real estate	51,200	93,242	131,962	137,215	146,150	246,400	307,000	382,600	575,400	1,115,400
Services	198,158	319,402	492,295	513,427	545,883	960,400	1,213,600	1,533,500	2,377,200	4,919,800
Lodging places and personal services			61,522	63,664	64,732	81,900	90,300	99,500	121,300	173,300
Business and repair services			65,502	66,783	70,082	133,100	174,200	227,900	377,100	857,200
Amusement and recreation services			15,050	15,506	16,421	23,900	28,300	33,500	45,900	78,500
Private households			20,311	19,983	19,756	22,600	25,000	28,000	33,900	35,900
Professional services			329,910	347,488	374,890	698,700	895,400	1,147,500	1,804,800	3,774,700
Government	295,269	521,029	671,780	707,330	734,448	1,073,900	1,308,600	1,594,600	2,311,800	4,367,300
Federal government	115,901	222,118	207,798	212,740	222,037	304,400	359,900	425,500	576,100	1,046,400
State and local government	144,638	263,900	427,809	459,129	473,002	728,500	902,100	1,116,900	1,669,100	3,212,100
Armed forces	34,729	35,008	36,174	35,461	39,409	41,000	46,200	52,100	66,500	108,700

*Employment is for 1960.

TABLE 3-124
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-1, HARRISBURG, PA., 1950-2020, SERIES E

SMSA 16-1 Harrisburg, Pa.

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	317,294	379,344	406,739	413,440	417,572	456,700	487,100	519,400	569,200	658,400
Per capita income (1967 $)	2,206	2,569	3,357	3,457	3,583	4,800	5,400	6,200	8,200	13,200
Per capita income relative (U.S.=1.00)	1.07	.99	.98	.99	1.01	1.01	1.01	1.01	1.01	1.00
Total employment	129,368	146,586		174,646		210,800	225,000	240,200	270,200	303,500
Employment/population ratio				.42		.46	.46	.46	.47	.46
					In Thousands of 1967 Dollars					
Total personal income	699,860	974,661	1,365,619	1,429,196	1,496,193	2,207,100	2,675,500	3,243,300	4,681,100	8,755,300
Total earnings	602,796	877,237	1,207,998	1,253,124	1,305,435	1,915,700	2,296,100	2,751,900	3,909,600	7,125,500
Agriculture, forestry and fisheries	20,957a	11,374a	18,762a	18,962a	15,896a	19,800	20,400	21,100	23,500	29,700
Agriculture						19,700	20,300	21,000	23,400	29,500
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	1,385d	1,247b	943b	1,146b	671b	900	900	1,000	1,000	1,300
Metal						(S)	(S)	(S)	(S)	(S)
Coal						(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas						800	800	800	900	1,100
Nonmetallic, except fuels										
Contract construction	33,118	45,763	86,368	82,443	83,381	121,900	143,000	167,800	227,400	378,400
Manufacturing	146,549	186,339	280,068	286,700	290,981	419,600	488,400	568,500	762,800	1,273,900
Food and kindred products						80,300	91,500	104,200	132,200	199,900
Textile mill products						13,400	14,000	14,600	16,700	22,000
Apparel and other fabric products						22,800	23,800	24,800	27,800	34,900
Lumber products and furniture						2,700	2,900	3,200	3,800	5,100
Paper and allied products						8,200	9,800	11,700	16,200	27,800
Printing and publishing						17,800	21,000	24,900	33,900	57,100
Chemicals and allied products						(S)	(S)	(S)	(S)	(S)
Petroleum refining						1,800	2,000	2,400	3,100	5,000
Primary metals						52,200	54,300	56,500	63,200	80,100
Fabricated metals and ordnance						27,000	31,000	35,600	46,200	72,200
Machinery, excluding electrical						26,200	32,600	40,500	59,400	112,800
Electrical machinery and supplies						76,100	94,800	118,200	176,600	340,100
Motor vehicles and equipment						17,100	21,300	26,600	39,100	72,300
Transportation equip., excl. mtr. vehs.						25,800	31,300	38,100	51,500	84,000
Other manufacturing						47,100	55,700	65,800	91,400	158,600
Trans., comm. and public utilities	77,784	81,814	107,886	115,633	122,439	170,500	204,100	244,400	350,500	652,500
Railroad transportation						27,600	26,000	24,500	22,100	18,800
Trucking and warehousing						63,300	80,100	101,100	154,100	304,800
Other transportation and services						11,500	13,700	16,200	22,400	38,300
Communications						48,200	59,800	74,200	111,700	218,700
Utilities (elec., gas, sanitary)						19,500	23,400	28,200	39,900	71,600
Wholesale and retail trade	94,975	135,929	185,390	192,907	210,165	289,200	335,600	389,400	527,500	876,800
Finance, insurance and real estate	23,286	39,624	60,405	63,241	66,776	108,300	135,400	169,400	256,300	502,200
Services	60,889	99,038	154,842	161,863	170,285	293,100	367,900	461,800	705,700	1,421,300
Lodging places and personal services						23,400	26,000	28,900	35,600	51,800
Business and repair services						43,500	55,900	71,700	114,700	247,100
Amusement and recreation services						8,300	10,200	12,100	16,700	28,900
Private households						4,900	5,200	5,500	6,300	8,200
Professional services						212,500	270,200	343,400	532,200	1,085,200
Government	140,507	275,125	311,832	328,826	343,547	492,000	598,600	728,300	1,054,600	1,989,100
Federal government	69,991	136,967	104,809	107,508	113,968	145,300	168,100	194,400	253,300	435,000
State and local government	56,139	120,153	192,121	207,084	212,814	331,800	413,500	515,300	777,900	1,516,600
Armed forces	14,376	18,005	14,903	14,232	16,765	14,800	16,600	18,500	23,300	37,400

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

SMSA 16-2 **Lancaster, Pa.**

TABLE 3-125
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-2, LANCASTER, PA., 1950-2020, SERIES E

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	234,918	284,325	315,699	322,501	326,403	366,900	384,100	402,000	426,700	468,200
Per capita income (1967 $)	2,160	2,601	3,319	3,384	3,406	4,600	5,200	5,900	7,900	12,900
Per capita income relative (U.S.=1.00)	1.05	1.01	.97	.97	.96	.97	.97	.97	.97	.98
Total employment	97,629	113,364		139,025		172,600	180,700	189,100	205,800	218,600
Employment/population ratio				.43		.47	.47	.47	.48	.47
					In Thousands of 1967 Dollars					
Total personal income	507,485	739,463	1,047,899	1,091,399	1,111,572	1,694,200	2,020,200	2,409,000	3,389,800	6,043,200
Total earnings	423,506	609,779	848,508	876,860	883,790	1,340,100	1,587,700	1,880,900	2,622,500	4,633,100
Agriculture, forestry and fisheries	66,520	45,575	56,405	56,210	48,935	58,800	60,700	62,600	69,700	88,000
Agriculture						58,700	60,500	62,500	69,600	87,800
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	1,474	2,121	2,779	3,386	3,541	3,600	3,600	3,700	4,100	5,200
Metal						(S)	(S)	(S)	(S)	(S)
Coal										
Crude petroleum and natural gas										
Nonmetallic, except fuels						3,500	3,500	3,600	4,000	5,000
Contract construction	24,475	32,633	53,089	54,739	61,205	84,500	97,700	113,000	149,500	239,500
Manufacturing	176,073	289,994	397,366	401,926	389,902	587,800	687,500	804,200	1,087,100	1,820,500
Food and kindred products						40,400	45,500	51,100	63,500	92,300
Textile mill products						15,300	15,900	16,600	19,000	24,900
Apparel and other fabric products						32,900	36,400	40,200	49,800	73,300
Lumber products and furniture						13,800	15,900	18,400	24,100	38,400
Paper and allied products						7,700	9,100	10,800	14,900	25,600
Printing and publishing						33,000	40,100	48,600	69,500	125,200
Chemicals and allied products						15,100	18,300	22,200	32,300	60,400
Petroleum refining						(S)	(S)	(S)	(S)	(S)
Primary metals						29,500	31,500	33,700	39,300	53,000
Fabricated metals and ordnance						74,300	87,000	101,900	137,400	227,300
Machinery, excluding electrical						69,400	81,700	96,100	127,500	205,300
Electrical machinery and supplies						84,800	105,300	130,800	194,400	378,400
Motor vehicles and equipment						(S)	(S)	(S)	(S)	(S)
Transportation equip., excl. mtr. vehs.						16,700	20,500	25,300	35,000	58,700
Other manufacturing						153,500	178,100	206,700	277,900	461,000
Trans., comm. and public utilities	19,970	33,694	42,241	45,379	47,610	74,400	89,400	107,500	152,600	274,600
Railroad transportation						4,000	4,000	4,000	4,000	4,200
Trucking and warehousing						33,200	40,400	49,200	70,600	128,000
Other transportation and services						5,900	7,100	8,500	12,100	21,400
Communications						14,600	18,400	23,200	36,000	73,600
Utilities (elec., gas, sanitary)						16,600	19,300	22,300	29,600	47,400
Wholesale and retail trade	68,849	88,729	120,909	130,070	136,094	199,400	233,100	272,500	374,000	636,100
Finance, insurance and real estate	7,328	14,727	20,290	21,268	23,276	40,300	50,400	63,000	95,300	186,800
Services	33,402	60,801	90,857	95,066	101,895	184,200	233,000	294,700	457,800	948,400
Lodging places and personal services						19,900	22,200	24,900	31,000	45,800
Business and repair services						29,500	38,800	51,100	85,300	195,600
Amusement and recreation services						4,100	4,900	5,900	8,200	14,300
Private households						4,900	5,100	5,300	5,800	7,200
Professional services						125,600	161,400	207,400	327,300	685,300
Government	25,415	41,506	64,572	68,816	71,333	106,800	130,400	159,300	232,000	433,600
Federal government	8,276	10,803	8,184	8,421	8,369	11,800	14,100	17,000	23,400	43,700
State and local government	15,497	27,959	52,775	56,749	59,017	90,200	110,900	136,300	201,000	377,900
Armed forces	1,642	2,744	3,613	3,646	3,947	4,700	5,300	5,900	7,400	12,000

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-126

DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-3, YORK, PA., 1950-2020, SERIES E

SMSA 16-3 York, Pa.

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	247,146	297,715	325,710	332,022	336,121	371,200	391,400	412,800	442,800	492,800
Per capita income (1967 $)	2,092	2,407	3,323	3,448	3,417	4,600	5,200	6,000	7,900	12,900
Per capita income relative (U.S.=1.00)	1.01	.93	.97	.99	.96	.97	.97	.97	.98	.98
Total employment	103,284	115,929		140,803		172,000	181,500	191,600	210,900	227,800
Employment/population ratio				.42		.46	.46	.46	.48	.46
					In Thousands of 1967 Dollars					
Total personal income	516,928	716,691	1,082,229	1,144,857	1,148,544	1,718,900	2,064,900	2,480,500	3,525,900	6,372,300
Total earnings	422,442	555,805	885,425	932,249	916,668	1,364,800	1,628,600	1,943,300	2,736,100	4,897,400
Agriculture, forestry and fisheries	33,722a	17,080a	30,318a	33,089	21,773	23,000	23,700	24,500	27,300	34,500
Agriculture						23,000	23,700	24,400	27,200	34,300
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	e	e	e	4,482	4,265	4,800	4,900	5,000	5,500	6,900
Metal						(S)	(S)	(S)	(S)	(S)
Coal						(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas						(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels						4,500	4,700	4,800	5,300	6,600
Contract construction	23,998	34,785	79,355	113,334	102,244	140,100	169,000	204,000	290,800	527,900
Manufacturing	204,954	266,477	423,235	422,161	411,949	601,200	701,100	817,500	1,095,900	1,809,500
Food and kindred products						39,600	44,300	49,700	61,400	88,400
Textile mill products						20,900	21,700	22,600	25,800	33,800
Apparel and other fabric products						30,500	33,300	36,400	44,300	63,700
Lumber products and furniture						39,900	45,000	50,800	64,400	97,200
Paper and allied products						44,300	51,900	60,700	81,900	136,100
Printing and publishing						38,400	46,900	57,200	82,400	150,400
Chemicals and allied products						2,300	2,600	2,900	3,600	5,300
Petroleum refining						3,700	4,100	4,700	5,900	8,800
Primary metals						23,200	24,800	26,600	31,000	41,800
Fabricated metals and ordnance						81,000	95,900	113,600	156,100	265,100
Machinery, excluding electrical						146,000	173,500	206,300	278,800	459,900
Electrical machinery and supplies						32,700	41,500	52,600	80,800	162,000
Motor vehicles and equipment						8,900	10,700	13,000	18,100	30,800
Transportation equip., excl. mtr. vehs.						(S)	(S)	(S)	(S)	(S)
Other manufacturing						89,200	103,400	119,800	160,700	265,600
Trans., comm. and public utilities	20,519	35,168	48,727	50,185	54,028	81,400	98,200	118,400	169,200	308,500
Railroad transportation						4,800	4,700	4,700	4,600	4,400
Trucking and warehousing						39,900	48,300	58,600	83,600	150,500
Other transportation and services						5,100	6,400	7,900	11,800	22,300
Communications						14,300	18,300	23,500	37,400	79,000
Utilities (elec., gas, sanitary)						17,200	20,100	23,500	31,600	52,200
Wholesale and retail trade	57,196	86,544	129,340	133,233	139,425	203,700	240,400	283,600	395,200	684,500
Finance, insurance and real estate	6,359	13,528	17,934	19,400	20,096	36,200	45,600	57,300	87,500	173,300
Services	32,817	57,032	87,496	90,856	95,459	170,600	216,800	275,600	431,700	904,200
Lodging places and personal services						14,600	16,100	17,800	21,700	31,000
Business and repair services						27,600	36,300	47,800	79,900	183,400
Amusement and recreation services						4,900	5,800	6,900	9,600	16,800
Private households						4,500	4,700	5,000	5,600	7,200
Professional services						118,800	153,300	197,900	314,700	665,600
Government	34,795	38,591	62,234	65,509	67,429	103,400	127,300	156,800	232,500	447,700
Federal government	3,416	6,713	9,490	9,615	9,302	11,900	13,600	15,500	19,800	32,600
State and local government	17,878	28,223	48,004	51,194	52,986	85,200	106,600	133,400	202,800	399,200
Armed forces	13,502	3,655	4,741	4,700	5,142	6,200	7,000	7,800	9,800	15,800

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-127
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 16-4, ALTOONA, PA., 1950-2020, SERIES E

SMSA 16-4 Altoona, Pa.

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	139,633	139,261	135,488	136,203	135,551	141,800	146,800	152,000	159,800	174,800
Per capita income (1967 $)	1,770	2,098	2,850	2,931	3,017	4,100	4,700	5,400	7,200	12,000
Per capita income relative (U.S.=1.00)	.86	.81	.83	.84	.85	.87	.87	.88	.89	.91
Total employment	47,628	46,255		50,121		57,800	60,300	62,900	68,600	74,300
Employment/population ratio				.37		.41	.41	.41	.43	.43
					In Thousands of 1967 Dollars					
Total personal income	247,146	292,105	386,124	399,181	408,933	587,700	697,400	827,600	1,164,900	2,107,300
Total earnings	198,743	231,600	306,955	312,437	314,883	450,200	531,600	627,800	878,100	1,581,900
Agriculture, forestry and fisheries	4,315	2,767	4,578	4,697	3,988	5,900	6,100	6,300	7,000	8,900
Agriculture						5,900	6,100	6,300	7,000	8,900
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	2,329	2,421	373	347	327	(S)	(S)	(S)	(S)	(S)
Metal										
Coal						(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas										
Nonmetallic, except fuels						(S)	(S)	(S)	(S)	(S)
Contract construction	8,292	8,037	18,453	18,794	18,774	17,900	19,600	21,500	25,700	34,400
Manufacturing	31,469	65,153	99,976	99,008	94,674	146,200	174,100	207,300	288,600	504,800
Food and kindred products						14,900	17,300	20,000	26,200	41,700
Textile mill products						8,800	8,900	8,900	9,400	11,100
Apparel and other fabric products						8,200	9,400	10,800	14,200	22,500
Lumber products and furniture						(S)	(S)	(S)	(S)	(S)
Paper and allied products						19,800	23,000	26,600	35,300	57,100
Printing and publishing						14,100	17,200	21,000	30,200	55,100
Chemicals and allied products						(S)	(S)	(S)	(S)	(S)
Petroleum refining						(S)	(S)	(S)	(S)	(S)
Primary metals						2,100	2,300	2,400	2,900	3,900
Fabricated metals and ordnance						9,600	12,000	14,900	22,000	41,000
Machinery, excluding electrical						17,200	21,400	26,700	38,800	71,000
Electrical machinery and supplies						15,900	20,200	25,600	39,300	78,900
Motor vehicles and equipment						2,000	2,400	2,900	4,700	6,900
Transportation equip., excl. mtr. vehs.						3,800	4,600	5,600	7,700	12,600
Other manufacturing						27,900	33,300	39,800	56,100	99,300
Trans., comm. and public utilities	83,210	59,535	55,473	55,244	55,812	62,100	67,700	73,800	92,600	149,100
Railroad transportation						31,400	29,500	27,700	25,000	21,100
Trucking and warehousing						12,800	15,600	19,000	27,300	49,700
Other transportation and services						1,000	1,200	1,400	2,000	3,700
Communications						10,100	12,900	16,700	26,500	56,300
Utilities (elec., gas, sanitary)						6,700	7,700	8,900	11,600	18,100
Wholesale and retail trade	32,173	37,475	47,179	48,447	50,599	67,800	76,500	86,400	111,500	170,400
Finance, insurance and real estate	3,697	6,309	7,762	7,816	8,627	14,600	17,700	21,400	30,600	54,500
Services	16,140	25,264	39,759	42,552	45,478	85,100	110,100	142,500	230,100	509,200
Lodging places and personal services						4,600	4,900	5,300	6,000	7,800
Business and repair services						8,900	11,700	15,300	25,300	57,500
Amusement and recreation services						1,700	2,000	2,400	3,400	6,000
Private households						1,900	2,000	2,100	2,300	3,000
Professional services						67,900	89,200	117,300	192,900	434,700
Government	17,117	24,638	33,402	35,534	36,604	49,900	58,300	68,000	91,200	149,900
Federal government	2,022	4,892	6,084	6,595	6,734	10,000	12,000	14,400	19,900	17,000
State and local government	14,074	18,261	25,528	27,165	27,937	37,400	43,500	50,600	67,500	106,800
Armed forces	1,021	1,484	1,790	1,773	1,933	2,300	2,600	3,000	3,700	6,000

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-128
INDEPENDENT CITY AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 17E - BALTIMORE, MD.

17-1 Baltimore, Md. SMSA
- Anne Arundel, Maryland
- Baltimore County, Maryland
- Baltimore City, Maryland
- Carroll, Maryland
- Harford, Maryland
- Howard, Maryland

Non-SMSA Areas
- Caroline, Maryland
- Dorchester, Maryland
- Frederick, Maryland
- Kent, Maryland
- Queen Annes, Maryland
- Somerset, Maryland
- Talbot, Maryland
- Washington, Maryland
- Wicomico, Maryland
- Worcester, Maryland
- Accomack, Virginia
- Northampton, Virginia
- Kent, Delaware
- Sussex, Delaware

TABLE 3-129
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 17, BALTIMORE, MD., 1950-2020, SERIES E

BEA Economic Area 017 Baltimore, Md. **1972-E OBERS Projections**

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	1,935,904	2,408,199	2,650,547	2,679,935	2,710,141	2,822,900	2,940,400	3,062,700	3,234,400	3,578,300
Per capita income (1967 $)	2,191	2,661	3,518	3,570	3,641	4,800	5,500	6,200	8,200	13,400
Per capita income relative (U.S.=1.00)	1.06	1.03	1.02	1.03	1.03	1.02	1.02	1.02	1.01	1.01
Total employment	774,807	897,875		1,087,132		1,252,600	1,306,600	1,362,800	1,482,800	1,609,600
Employment/population ratio				.41		.44	.44	.44	.46	.45
Earnings per worker (1967 $)				7,032		8,600	9,700	10,900	13,900	22,800
Earnings per worker relative (U.S.=1.00)				.99		.99	.99	.99	.99	.99
					In Thousands of 1967 Dollars					
Total personal income	4,241,131	6,408,821	9,323,914	9,566,704	9,866,597	13,749,700	16,247,500	19,199,000	26,789,100	47,969,100
Total earnings	3,494,886	5,238,379	7,530,465	7,645,079	7,802,034	10,812,700	12,710,200	14,940,700	20,665,900	36,699,700
Agriculture, forestry and fisheries	215,087	161,989	225,495	187,751	161,873	198,900	205,400	212,100	235,800	296,900
Agriculture			223,381	185,254	158,674	196,200	202,600	209,300	232,700	292,800
Forestry and fisheries			2,115	2,497	2,501	2,700	2,700	2,800	3,100	4,000
Mining	7,653	8,756	3,864	3,702	3,363	4,100	4,300	4,400	5,000	6,400
Metal			(D)	-27	-47	(S)	(S)	(S)	(S)	(S)
Coal			(D)	168	203	(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas			253	473	505	(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels			2,421	3,086	2,701	3,100	3,100	3,100	3,400	4,200
Contract construction	274,936	332,623	455,362	500,784	532,640	679,500	789,100	916,400	1,231,400	2,062,200
Manufacturing	1,041,783	1,618,355	2,073,977	2,006,416	1,921,257	2,608,000	2,938,800	3,311,500	4,254,600	6,663,100
Food and kindred products			261,340	268,879	262,197	320,300	345,000	371,600	439,900	605,100
Textile mill products			15,057	(D)	(D)	14,700	13,800	13,000	13,300	15,000
Apparel and other fabric products			132,231	121,722	114,172	149,700	161,900	175,000	210,700	298,700
Lumber products and furniture			52,204	51,809	53,666	67,400	75,000	83,400	104,400	155,900
Paper and allied products			50,113	50,499	49,729	76,700	90,400	106,500	145,300	244,700
Printing and publishing			121,143	120,024	124,613	191,900	226,200	266,600	367,500	632,800
Chemicals and allied products			148,100	149,794	149,117	231,100	278,000	334,400	478,000	866,300
Petroleum refining			(D)	9,436	10,894	12,500	13,300	14,000	16,500	22,600
Primary metals			400,529	396,259	358,231	449,900	490,800	535,500	635,800	870,200
Fabricated metals and ordnance			(D)	(D)	(D)	248,800	281,300	318,000	412,900	653,000
Machinery, excluding electrical			132,268	132,029	126,096	191,200	230,100	277,000	381,100	648,600
Electrical machinery and supplies			104,119	84,254	73,398	108,100	122,400	138,500	185,800	312,000
Motor vehicles and equipment			127,113	105,300	118,130	167,000	189,000	213,800	278,400	443,000
Transportation equip., excl. mtr. vehs.			142,566	128,727	102,587	128,400	135,400	142,700	162,800	213,500
Other manufacturing			181,277	173,710	169,206	249,600	283,000	320,800	421,500	681,100
Trans., comm. and public utilities	339,167	454,672	564,513	590,368	613,812	807,000	938,100	1,090,600	1,471,000	2,497,300
Railroad transportation			79,685	82,191	85,472	76,300	73,500	70,700	64,500	55,100
Trucking and warehousing			138,613	143,088	156,058	214,900	253,400	298,700	410,200	704,800
Other transportation and services			125,836	130,865	125,546	163,100	186,800	213,900	273,900	415,900
Communications			122,555	130,264	136,426	206,700	253,700	311,500	461,800	893,300
Utilities (elec., gas, sanitary)			97,824	103,957	110,310	145,800	168,900	195,500	260,300	428,000
Wholesale and retail trade	623,976	866,056	1,242,817	1,279,856	1,347,703	1,787,500	2,042,600	2,334,100	3,098,300	5,049,800
Finance, insurance and real estate	144,453	239,346	343,543	354,742	371,230	570,700	692,000	839,000	1,210,700	2,222,200
Services	386,662	630,922	1,008,788	1,056,057	1,118,946	1,809,900	2,244,800	2,784,200	4,204,800	8,459,000
Lodging places and personal services			108,335	105,241	104,197	124,600	136,000	148,400	179,000	255,700
Business and repair services			218,454	219,015	229,133	387,600	489,300	617,800	959,700	1,990,900
Amusement and recreation services			40,751	44,534	46,624	61,200	70,400	81,000	106,000	168,700
Private households			70,380	69,241	68,457	69,400	70,000	70,700	74,100	86,200
Professional services			570,864	618,027	670,535	1,167,000	1,475,700	1,866,100	2,885,900	5,957,200
Government	461,167	925,652	1,612,101	1,665,399	1,731,910	2,346,700	2,844,500	3,448,000	4,953,800	9,442,500
Federal government	166,318	302,189	509,457	530,009	570,900	800,500	985,600	1,213,600	1,754,500	3,517,000
State and local government	169,826	410,310	770,394	810,845	851,580	1,224,000	1,494,300	1,824,300	2,676,500	5,071,500
Armed forces	125,022	213,158	332,252	324,552	309,433	322,100	363,400	410,000	522,700	854,000

*Employment is for 1960.

SMSA 17-1 Baltimore, Md.

TABLE 3-130
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 17-1, BALTIMORE, MD., 1950-2020, SERIES E

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	1,464,644	1,850,984	2,054,490	2,078,379	2,100,533	2,170,200	2,262,900	2,359,400	2,488,000	2,710,200
Per capita income (1967 $)	2,327	2,762	3,547	3,618	3,698	4,900	5,600	6,300	8,300	13,500
Per capita income relative (U.S. = 1.00)	1.13	1.07	1.03	1.04	1.04	1.03	1.03	1.03	1.03	1.02
Total employment	590,943	693,471		846,004		966,000	1,008,400	1,052,700	1,143,300	1,221,400
Employment/population ratio				.41		.45	.45	.45	.46	.45
					In Thousands of 1967 Dollars					
Total personal income	3,408,497	5,111,989	7,288,102	7,520,484	7,768,431	10,724,800	12,675,200	14,980,100	20,843,800	36,681,200
Total earnings	2,809,735	4,242,012	6,063,038	6,191,933	6,337,328	8,710,600	10,225,900	12,004,600	16,518,900	28,737,100
Agriculture, forestry and fisheries	42,665	21,645	31,561a	30,485a	27,002a	39,900	41,300	42,700	47,500	59,700
Agriculture						39,700	41,100	42,500	47,300	59,600
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	7,045	7,833	2,519a	2,280a	1,901a	2,500	2,700	2,800	3,200	4,200
Metal						(S)	(S)	(S)	(S)	(S)
Coal						(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas						(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels						1,600	1,600	1,600	1,800	2,200
Contract construction	240,201	283,904	375,980	416,149	440,491	551,000	634,400	730,400	966,000	1,573,800
Manufacturing	878,052	1,366,922	1,683,123	1,617,098	1,545,707	2,085,900	2,340,400	2,626,000	3,344,000	5,159,500
Food and kindred products						181,800	192,100	203,100	232,400	303,200
Textile mill products						9,200	8,700	8,200	8,400	9,600
Apparel and other fabric products						91,700	97,800	104,400	122,900	168,800
Lumber products and furniture						50,800	56,700	63,300	79,600	119,500
Paper and allied products						73,500	86,400	101,500	137,700	230,100
Printing and publishing						156,300	181,900	211,700	285,500	476,200
Chemicals and allied products						157,900	187,800	223,400	313,300	552,200
Petroleum refining						11,400	12,100	12,800	15,000	20,500
Primary metals						445,300	486,000	530,400	630,100	863,000
Fabricated metals and ordnance						235,000	265,600	300,300	389,800	616,400
Machinery, excluding electrical						160,200	191,900	229,900	313,600	526,300
Electrical machinery and supplies						99,300	111,900	126,100	167,400	275,000
Motor vehicles and equipment						111,100	124,300	139,100	177,700	273,200
Transportation equip., excl. mtr. vehs.						104,200	109,400	114,900	130,200	169,100
Other manufacturing						197,600	225,100	256,300	339,500	555,400
Trans., comm. and public utilities	285,109	379,353	474,026	495,098	512,409	668,400	775,500	899,900	1,207,900	2,033,100
Railroad transportation						58,700	56,900	55,200	51,000	44,300
Trucking and warehousing						174,200	205,400	242,200	332,600	571,500
Other transportation and services						151,000	172,200	196,200	249,200	373,800
Communications						168,000	205,500	251,200	370,000	708,600
Utilities (elec., gas, sanitary)						116,200	134,100	154,800	205,100	334,700
Wholesale and retail trade	499,599	704,805	1,018,067	1,047,050	1,102,970	1,437,700	1,637,200	1,864,300	2,458,300	3,957,300
Finance, insurance and real estate	131,554	216,332	309,715	320,764	333,864	509,200	616,000	745,100	1,070,400	1,948,100
Services	324,789	520,833	836,258	878,980	930,466	1,479,300	1,822,300	2,244,800	3,327,900	6,183,400
Lodging places and personal services						95,300	103,900	113,300	136,400	194,200
Business and repair services						340,700	422,600	524,100	768,500	1,141,400
Amusement and recreation services						51,500	59,000	67,700	88,100	139,300
Private households						57,800	58,300	58,700	61,400	91,100
Professional services						933,800	1,175,900	1,480,800	2,273,300	4,637,200
Government	400,722	740,380	1,328,729	1,380,225	1,439,244	1,936,300	2,348,400	2,848,200	4,093,300	7,817,600
Federal government	148,976	257,802	443,004	466,600	506,146	704,300	865,900	1,064,500	1,534,800	3,065,600
State and local government	139,177	320,105	623,005	653,457	686,259	982,000	1,200,500	1,467,500	2,157,700	4,102,300
Armed forces	112,569	162,474	262,721	260,868	246,841	249,900	281,000	316,100	400,700	649,600

*Employment is for 1960.
a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-131
INDEPENDENT CITY AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 18E - WASHINGTON, D.C.-MD.-VA.

18-1 Washington, D.C.-Md.-Va. SMSA

Montgomery, Maryland
Prince Georges, Maryland
District of Columbia
Arlington and Alexandria, Virginia
Fairfax County, Fairfax City,
Falls Church, Virginia
Loudoun, Virginia
Prince William, Virginia

Non-SMSA Areas

Calvert, Maryland
Charles, Maryland
St. Mary's, Maryland
Culpeper, Virginia
Fauquier, Virginia
Fredericksburg, Virginia
King George, Virginia
Rappahannock, Virginia
Stafford, Virginia
Spotsylvania, Virginia

TABLE 3-132
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 18, WASHINGTON, D.C.-MD.-VA., 1950-2020, SERIES E

BEA Economic Area 018 Washington, D.C.—Md.—Va. — **1972-E OBERS Projections**

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	1,661,277	2,462,044	3,035,367	3,095,493	3,182,060	3,755,200	4,214,200	4,729,400	5,592,300	7,415,600
Per capita income (1967 $)	2,741	3,152	4,092	4,293	4,369	5,600	6,400	7,200	9,300	14,700
Per capita income relative (U.S.=1.00)	1.33	1.22	1.19	1.24	1.23	1.19	1.18	1.17	1.15	1.12
Total employment	738,119	944,211		1,358,192		1,797,900	2,013,200	2,254,400	2,717,800	3,484,400
Employment/population ratio				.44		.48	.48	.48	.49	.47
Earnings per worker (1967 $)				8,323		10,000	11,200	12,500	15,700	25,200
Earnings per worker relative (U.S.=1.00)				1.17		1.15	1.14	1.14	1.12	1.10
					In Thousands of 1967 Dollars					
Total personal income	4,554,040	7,761,353	12,420,247	13,288,394	13,900,900	21,400,600	27,045,700	34,179,600	52,475,600	109,705,800
Total earnings	3,736,702	6,499,528	10,599,647	11,303,942	11,799,749	18,066,000	22,628,200	28,342,400	42,862,500	87,900,600
Agriculture, forestry and fisheries	80,236	65,187	73,533	80,205	78,343	89,900	97,600	106,000	126,700	177,900
Agriculture			49,976	54,198	50,319	53,400	55,500	57,700	64,400	81,800
Forestry and fisheries			23,557	26,008	28,025	36,400	41,900	48,300	62,300	96,100
Mining	2,880	8,441	11,943	12,945	13,427	19,300	23,100	27,500	36,400	57,700
Metal			(D)			(S)	(S)	(S)	(S)	(S)
Coal				381	280	(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas			574	600	654	800	900	900	1,100	1,400
Nonmetallic, except fuels			(D)	11,964	12,495	18,100	21,700	26,000	34,800	55,500
Contract construction	246,856	433,741	623,576	660,494	727,782	1,120,100	1,385,500	1,713,700	2,513,300	4,832,600
Manufacturing	165,191	309,938	439,088	432,333	464,738	753,600	930,400	1,148,600	1,673,500	3,137,000
Food and kindred products			63,677	54,228	54,660	75,300	89,900	107,300	147,100	257,800
Textile mill products			(D)							
Apparel and other fabric products			7,776	7,534	8,211	12,700	15,200	18,100	24,400	39,800
Lumber products and furniture			16,555	14,431	14,672	21,000	24,300	28,100	36,900	58,400
Paper and allied products			3,676	3,673	3,330	5,100	5,800	6,700	8,800	14,300
Printing and publishing			166,238	174,673	184,095	296,900	368,200	456,600	664,300	1,243,200
Chemicals and allied products			25,163	23,986	25,875	36,800	42,700	49,600	68,300	117,400
Petroleum refining			1,595	1,772	2,108	3,300	4,100	5,100	7,100	12,100
Primary metals			2,340	2,618	2,335	2,900	3,300	3,700	4,500	6,300
Fabricated metals and ordnance			(D)	(D)	(D)	45,000	55,100	67,400	96,000	170,300
Machinery, excluding electrical			17,413	15,348	15,170	24,100	28,400	33,400	44,700	71,500
Electrical machinery and supplies			51,856	52,382	67,967	139,000	184,300	244,300	392,900	832,100
Motor vehicles and equipment			2,464	2,159	1,691	2,000	2,100	2,300	2,800	4,100
Transportation equip., excl. mtr. vehs.			12,277	12,287	16,221	20,400	21,000	21,700	24,200	30,800
Other manufacturing			(D)	(D)	(D)	68,300	84,200	103,800	150,700	276,100
Trans., comm. and public utilities	241,790	367,765	565,929	597,817	628,446	955,600	1,203,600	1,516,000	2,299,100	4,690,200
Railroad transportation			52,513	52,402	53,375	56,100	59,300	62,600	65,700	72,100
Trucking and warehousing			60,612	64,125	72,511	119,800	156,200	203,600	330,700	748,100
Other transportation and services			172,921	185,191	191,587	274,300	334,300	407,400	568,200	988,100
Communications			194,911	205,563	217,137	361,100	470,700	613,600	988,000	2,175,500
Utilities (elec., gas, sanitary)			84,970	90,531	93,836	144,000	181,500	228,600	346,300	706,200
Wholesale and retail trade	593,358	905,616	1,406,833	1,471,960	1,498,559	2,254,800	2,777,700	3,421,900	5,066,700	9,883,400
Finance, insurance and real estate	144,965	283,989	482,619	493,396	542,198	922,600	1,192,600	1,541,800	2,429,600	5,133,400
Services	526,392	1,164,073	2,084,259	2,218,891	2,268,768	4,147,300	5,423,200	7,091,700	11,509,600	25,329,600
Lodging places and personal services			(D)	186,648	184,695	239,600	276,600	319,200	414,700	664,300
Business and repair services			(D)	571,565	560,704	1,151,400	1,569,200	2,138,500	3,689,200	8,796,700
Amusement and recreation services			52,868	55,839	57,082	84,200	104,000	128,300	185,700	348,600
Private households			96,001	94,450	93,370	105,300	113,700	122,700	141,300	190,500
Professional services			1,204,298	1,310,394	1,372,912	2,566,500	3,353,900	4,382,800	7,078,600	15,329,400
Government	1,735,033	2,960,779	4,911,867	5,335,903	5,577,489	7,802,500	9,585,200	11,775,100	17,207,000	34,658,600
Federal government	1,302,098	2,152,005	3,297,719	3,590,116	3,744,588	5,276,200	6,410,900	7,789,400	11,088,900	21,805,700
State and local government	141,172	422,635	907,201	1,001,332	1,081,933	1,744,600	2,284,200	2,990,700	4,849,700	10,780,600
Armed forces	291,763	386,139	706,947	744,452	750,967	781,600	881,800	994,900	1,268,300	2,072,300

*Employment is for 1960.

TABLE 3-133
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 18-1, WASHINGTON, D.C.-MD.-VA., 1950-2020, SERIES E

SMSA 18-1 **Washington, D.C.—Md.—Va.** **1972-E OBERS Projections**

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	1,513,821	2,266,870	2,808,703	2,865,912	2,944,852	3,474,300	3,902,300	4,383,100	5,189,600	6,894,100
Per capita income (1967 $)	2,867	3,255	4,192	4,392	4,465	5,800	6,500	7,300	9,500	15,000
Per capita income relative (U.S. = 1.00)	1.39	1.26	1.22	1.26	1.26	1.22	1.21	1.19	1.17	1.13
Total employment	683,252	878,680		1,270,490		1,679,300	1,881,100	2,107,200	2,541,600	3,259,900
Employment/population ratio				.44		.48	.48	.48	.49	.47
						In Thousands of 1967 Dollars				
Total personal income	4,337,847	7,378,895	11,773,044	12,586,759	13,149,554	20,205,700	25,532,600	32,263,400	49,515,000	103,412,500
Total earnings	3,560,491	6,215,719	10,174,986	10,847,895	11,302,370	17,282,200	21,631,600	27,075,600	40,887,800	83,622,200
Agriculture, forestry and fisheries	46,983a	33,377a	45,512a	54,464a	56,316a	67,100	74,100	81,900	99,700	143,200
Agriculture						31,300	32,900	34,600	38,600	49,100
Forestry and fisheries						35,700	41,100	47,300	61,000	94,100
Mining	2,651a	7,028a	10,291a	11,140a	11,490a	17,300	20,500	24,300	31,900	49,700
Metal						(S)	(S)	(S)	(S)	(S)
Coal										
Crude petroleum and natural gas						800	900	900	1,100	1,400
Nonmetallic, except fuels						16,400	19,600	23,300	30,800	48,200
Contract construction	239,306	421,071	601,210	620,144	669,782	1,050,900	1,297,300	1,601,500	2,339,700	4,465,900
Manufacturing	144,312	275,601	396,042	390,640	420,980	688,500	852,500	1,055,600	1,543,600	2,907,900
Food and kindred products						66,500	79,100	94,100	128,100	221,800
Textile mill products										
Apparel and other fabric products						2,100	2,500	3,100	4,500	7,900
Lumber products and furniture						9,600	11,000	12,500	16,000	24,400
Paper and allied products						5,100	5,800	6,700	8,800	14,300
Printing and publishing						293,800	364,200	451,400	656,700	1,227,500
Chemicals and allied products						22,900	26,900	31,600	44,500	78,700
Petroleum refining						3,300	4,100	5,100	7,100	12,100
Primary metals						2,300	2,600	3,000	3,600	5,000
Fabricated metals and ordnance						40,100	49,100	60,100	85,700	152,200
Machinery, excluding electrical						24,100	28,300	33,300	44,600	73,400
Electrical machinery and supplies						138,900	184,200	244,200	392,800	832,100
Motor vehicles and equipment						(S)	(S)	(S)	(S)	(S)
Transportation equip., excl. mtr. vehs.						19,400	20,100	20,700	23,100	29,300
Other manufacturing						59,700	72,900	89,100	127,500	228,500
Trans., comm. and public utilities	236,912	357,874	549,333	580,456	609,792	920,600	1,156,800	1,453,500	2,194,400	4,444,300
Railroad transportation						54,700	57,800	61,100	64,200	70,400
Trucking and warehousing						110,200	142,800	185,100	297,800	664,100
Other transportation and services						270,800	329,600	401,100	558,200	967,400
Communications						347,800	452,700	589,400	946,900	2,077,800
Utilities (elec., gas, sanitary)						137,000	172,300	216,600	327,200	664,400
Wholesale and retail trade	568,112	861,751	1,344,133	1,406,080	1,428,157	2,136,500	2,630,200	3,238,000	4,788,000	9,315,500
Finance, insurance and real estate	142,459	278,101	471,982	482,354	530,098	903,500	1,167,600	1,508,800	2,376,100	5,012,700
Services	511,791	1,133,438	2,035,219	2,168,087	2,213,846	4,042,900	5,285,600	6,910,400	11,208,900	24,626,900
Lodging places and personal services						228,300	262,700	302,400	391,000	621,100
Business and repair services						1,140,900	1,555,600	2,120,900	3,661,300	8,738,300
Amusement and recreation services						79,700	98,300	121,400	175,700	329,700
Private households						95,600	102,600	110,100	125,600	167,000
Professional services						2,498,300	3,260,500	4,255,300	6,855,200	14,770,700
Government	1,666,105	2,843,893	4,713,511	5,133,027	5,360,208	7,454,600	9,137,900	11,201,100	16,305,100	32,655,700
Federal government	1,273,096	2,095,453	3,206,432	3,504,115	3,649,020	5,092,100	6,166,400	7,467,300	10,569,200	20,609,400
State and local government	133,089	402,222	866,986	958,870	1,038,278	1,638,200	2,169,000	2,837,200	4,593,000	10,179,100
Armed forces	257,920	346,218	640,095	670,040	672,912	704,200	794,500	896,400	1,142,800	1,867,200

*Employment is for 1960.
a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-134
INDEPENDENT CITY AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 21E - RICHMOND, VA.

21-1 Petersburg-Colonial Heights SMSA
- Dinwiddie, Virginia
- Prince George, Virginia
- Hopewell City, Virginia
- Petersburg City, Virginia
- Colonial Heights City, Virginia

21-2 Richmond, Virginia SMSA
- Chesterfield, Virginia
- Hanover, Virginia
- Henrico, Virginia
- Richmond City, Virginia

Non-SMSA Areas
- Albemarle, Virginia
- Amelia, Virginia
- Brunswick, Virginia
- Buckingham, Virginia
- Caroline, Virginia
- Charles City, Virginia
- Charlottesville City, Virginia
- Cumberland, Virginia
- Essex, Virginia
- King and Queen, Virginia
- King William, Virginia
- Lancaster, Virginia
- New Kent, Virginia
- Northumberland, Virginia
- Richmond, Virginia
- Westmoreland, Virginia
- Fluvanna, Virginia
- Goochland, Virginia
- Greene, Virginia
- Greensville, Virginia
- Louisa, Virginia
- Lunenburg, Virginia
- Madison, Virginia
- Mecklenburg, Virginia
- Nottoway, Virginia
- Orange, Virginia
- Powhatan, Virginia
- Prince Edward, Virginia
- Sussex, Virginia

TABLE 3-135
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 21, RICHMOND, VA., 1950-2020, SERIES E

BEA Economic Area 021 Richmond, Va. **1972-E OBERS Projections**

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	783,604	934,767	1,008,183	1,010,310	1,020,505	1,162,500	1,234,700	1,311,400	1,423,100	1,610,100
Per capita income (1967 $)	1,694	2,228	3,183	3,318	3,427	4,500	5,100	5,800	7,700	12,700
Per capita income relative (U.S.=1.00)	.82	.86	.93	.95	.97	.94	.95	.95	.95	.96
Total employment	305,945	334,134		412,071		515,600	548,700	584,000	653,.00	724,400
Employment/population ratio				.41		.44	.44	.45	.46	.45
Earnings per worker (1967 $)				6,528		8,000	9,100	10,300	13,100	21,800
Earnings per worker relative (U.S.=1.00)				.92		.93	.93	.93	.94	.95
					In Thousands of 1967 Dollars					
Total personal income	1,327,257	2,082,356	3,209,286	3,351,953	3,496,819	5,245,000	6,349,300	7,686,200	11,085,800	20,530,700
Total earnings	1,137,655	1,719,006	2,605,994	2,690,042	2,790,450	4,163,900	5,010,200	6,028,300	8,618,400	15,804,100
Agriculture, forestry and fisheries	111,998	88,580	69,023	68,361	64,051	70,400	72,100	73,800	81,400	101,200
Agriculture			67,613	66,701	62,391	68,700	70,400	72,100	79,600	98,800
Forestry and fisheries			1,408	1,659	1,666	1,600	1,600	1,700	1,800	2,400
Mining	2,582	3,555	4,782	5,165	5,115	6,600	7,200	7,900	9,400	13,200
Metal			-41	-53	-94	(S)	(S)	(S)	(S)	(S)
Coal			(D)	61	143	(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas			218	233	158	(S)	(S)	(S)	(S)	(S)
Nonmetallic, except fuels			(D)	4,924	4,909	6,100	6,700	7,300	8,700	12,200
Contract construction	70,260	103,202	167,860	172,269	186,112	277,500	329,000	389,900	537,900	916,900
Manufacturing	262,529	441,232	650,835	661,885	675,251	1,025,900	1,237,600	1,492,800	2,099,800	3,703,600
Food and kindred products			58,022	55,535	55,132	67,300	74,100	81,500	98,100	135,700
Textile mill products			26,006	24,907	26,473	37,200	44,100	52,300	69,100	109,300
Apparel and other fabric products			36,098	36,451	36,373	57,200	68,200	81,200	109,600	179,200
Lumber products and furniture			65,904	61,606	61,363	87,300	99,100	112,400	143,800	220,900
Paper and allied products			49,087	49,578	52,142	81,200	98,100	118,400	166,200	290,100
Printing and publishing			39,270	39,142	40,202	63,800	76,400	91,400	126,700	215,000
Chemicals and allied products			124,167	120,677	118,394	172,400	207,400	249,500	356,400	646,100
Petroleum refining			21	28	27	(S)	(S)	(S)	(S)	(S)
Primary metals			42,812	44,061	44,568	51,400	54,800	58,500	67,600	89,500
Fabricated metals and ordnance			19,612	19,370	19,804	33,200	41,300	51,400	74,700	136,200
Machinery, excluding electrical			18,529	20,642	20,774	37,000	47,300	60,600	89,900	167,100
Electrical machinery and supplies			23,769	27,264	25,645	51,400	66,300	85,500	133,000	270,400
Motor vehicles and equipment			(D)	5,131	5,097	7,700	9,300	11,300	16,000	27,900
Transportation equip., excl. mtr. vehs.			2,366	3,477	4,959	7,000	8,200	9,600	12,300	18,900
Other manufacturing			(D)	153,818	164,299	271,100	340,800	428,500	635,800	1,196,500
Trans., comm. and public utilities	117,675	142,850	184,949	193,101	205,449	289,700	344,900	410,500	578,300	1,042,500
Railroad transportation			46,560	47,413	47,793	46,500	46,000	45,400	43,800	40,700
Trucking and warehousing			48,147	49,778	52,901	78,800	95,300	115,300	164,000	291,600
Other transportation and services			16,267	15,745	16,231	24,300	29,600	36,000	50,900	88,900
Communications			47,536	51,692	57,374	94,500	118,500	148,500	228,200	462,000
Utilities (elec., gas, sanitary)			26,440	28,467	31,145	45,400	54,300	65,100	91,100	159,000
Wholesale and retail trade	224,591	312,175	439,175	456,038	469,922	672,900	787,900	922,600	1,266,200	2,127,300
Finance, insurance and real estate	60,954	110,729	166,204	172,800	184,603	290,700	359,100	443,600	662,600	1,288,200
Services	122,348	199,956	314,289	334,110	354,374	612,300	777,800	987,900	1,547,600	3,246,900
Lodging places and personal services			44,018	43,882	44,376	56,100	62,200	69,000	84,700	121,400
Business and repair services			50,082	53,518	54,942	103,900	136,500	179,500	296,500	665,200
Amusement and recreation services			8,081	9,160	9,467	13,900	16,800	20,200	28,200	49,400
Private households			33,708	33,163	32,783	35,300	36,300	37,200	39,800	45,600
Professional services			178,411	194,395	212,810	402,900	524,200	681,900	1,098,200	2,365,000
Government	164,711	316,729	608,875	626,309	645,578	917,400	1,091,600	1,298,800	1,834,600	3,164,100
Federal government	46,078	89,675	152,214	142,713	154,192	211,200	251,200	298,900	407,900	742,000
State and local government	84,330	174,025	345,145	377,598	388,814	599,400	719,600	863,900	1,253,500	2,338,900
Armed forces	34,304	53,028	111,516	105,999	102,563	106,700	120,400	135,800	173,200	283,000

*Employment is for 1960.

TABLE 3-136
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 21-1, PETERSBURG-HOPEWELL, VA., 1950-2020, SERIES F

SMSA 21-1 **Petersburg—Hopewell, Va.**

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	83,698	103,507	115,432	113,822	113,595	130,600	141,500	153,400	171,300	203,800
Per capita income (1967 $)	1,611	2,026	3,228	3,281	3,360	4,300	5,000	5,700	7,500	12,400
Per capita income relative (U.S.=1.00)	.78	.78	.94	.94	.95	.92	.92	.92	.93	.94
Total employment	34,310	35,260		54,551		66,900	72,100	77,700	88,200	100,600
Employment/population ratio				.48		.51	.51	.51	.52	.49
					In Thousands of 1967 Dollars					
Total personal income	134,837	209,670	372,657	373,496	381,685	574,300	708,800	874,700	1,297,800	2,534,000
Total earnings	125,624	195,788	329,767	330,302	334,503	501,300	611,600	746,200	1,087,200	2,069,100
Agriculture, forestry and fisheries	8,442	6,717	4,886	4,846	4,816	4,300	4,300	4,300	4,800	6,100
Agriculture						4,200	4,300	4,300	4,800	6,000
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	508	191	248	202	207	(S)	(S)	(S)	(S)	(S)
Metal										
Coal										
Crude petroleum and natural gas										
Nonmetallic, except fuels						(S)	(S)	(S)	(S)	(S)
Contract construction	3,946	8,690	12,207	10,875	9,174	18,000	22,300	27,600	40,900	76,800
Manufacturing	36,579	61,414	88,857	95,451	98,535	155,200	192,000	237,500	348,300	653,200
Food and kindred products						2,700	3,000	3,200	3,800	5,100
Textile mill products						1,400	1,700	2,100	2,900	4,900
Apparel and other fabric products						2,500	2,700	3,000	3,400	4,200
Lumber products and furniture						2,200	2,500	2,900	3,900	6,100
Paper and allied products						11,400	13,400	15,700	20,700	32,900
Printing and publishing						1,800	2,100	2,500	3,400	5,700
Chemicals and allied products						53,200	65,300	80,200	118,700	227,600
Petroleum refining										
Primary metals										
Fabricated metals and ordnance						1,400	1,600	1,900	2,500	3,500
Machinery, excluding electrical						5,600	7,400	9,800	15,200	30,300
Electrical machinery and supplies										
Motor vehicles and equipment										
Transportation equip., excl. mtr. vehs.										
Other manufacturing						72,600	91,700	115,800	173,300	332,600
Trans., comm. and public utilities	5,484	7,694	10,404	10,612	10,773	15,100	18,200	21,900	31,500	57,800
Railroad transportation						(S)	(S)	(S)	(S)	(S)
Trucking and warehousing						1,900	2,300	2,800	4,100	7,400
Other transportation and services						1,300	1,600	2,000	3,000	5,800
Communications						6,000	7,200	8,800	12,700	23,300
Utilities (elec., gas, sanitary)						4,600	5,700	7,100	10,600	20,500
Wholesale and retail trade	15,966	20,726	29,717	30,109	31,258	54,200	65,700	79,600	115,800	212,700
Finance, insurance and real estate	3,069	4,176	5,839	5,291	5,456	8,000	9,500	11,200	15,300	25,700
Services	9,421	15,382	21,603	22,508	25,438	45,400	57,700	73,400	115,200	241,200
Lodging places and personal services						7,300	8,500	9,900	13,200	21,200
Business and repair services						5,400	7,300	9,900	16,900	40,200
Amusement and recreation services						1,300	1,800	2,400	4,000	9,300
Private households						2,100	2,100	2,000	1,900	1,900
Professional services						29,000	37,700	49,100	79,000	168,300
Government	42,207	70,799	156,005	150,407	148,847	200,400	241,000	289,700	414,300	794,100
Federal government	8,517	17,913	36,472	34,451	37,476	55,500	67,200	81,400	114,200	215,800
State and local government	7,176	19,889	32,855	35,138	35,629	64,100	81,200	102,900	163,500	351,000
Armed forces	26,514	32,997	86,678	80,818	75,740	80,800	92,200	105,300	136,500	227,200

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-137
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 21-2, RICHMOND, VA., 1950-2020, SERIES E

SMSA 21-2 Richmond, Va.

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	355,718	473,434	529,350	533,933	543,566	635,700	684,400	736,900	817,700	955,100
Per capita income (1967 $)	2,273	2,773	3,734	3,886	3,993	5,100	5,800	6,500	8,500	11,700
Per capita income relative (U.S. = 1.00)	1.10	1.07	1.09	1.12	1.13	1.08	1.07	1.07	1.05	1.04
Total employment	152,100	181,278		222,404		287,000	309,000	332,700	379,300	432,500
Employment/population ratio				.42		.45	.45	.45	.46	.45
					In Thousands of 1967 Dollars					
Total personal income	808,477	1,312,732	1,976,390	2,074,650	2,170,561	3,276,600	3,983,100	4,841,900	7,031,000	13,126,700
Total earnings	691,166	1,097,601	1,662,291	1,721,128	1,792,918	2,690,600	3,243,700	3,910,500	5,608,100	10,307,800
Agriculture, forestry and fisheries	9,165a	6,375b	8,043a	7,590a	8,109a	10,400	10,800	11,200	12,400	15,400
Agriculture						10,400	10,800	11,200	12,300	15,300
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	e	e	871c	805c	838c	1,800	2,000	2,100	2,400	3,200
Metal						(S)	(S)	(S)	(S)	(S)
Coal										
Crude petroleum and natural gas										
Nonmetallic, except fuels						1,700	1,900	2,000	2,300	3,100
Contract construction	44,800	71,474	118,167	118,455	122,335	183,100	218,100	259,900	361,700	625,300
Manufacturing	162,908	286,037	393,748	397,308	405,581	600,300	716,600	855,500	1,182,600	2,026,100
Food and kindred products						35,500	38,400	41,500	48,300	63,700
Textile mill products						(S)	(S)	(S)	(S)	(S)
Apparel and other fabric products						27,600	32,600	38,500	51,100	81,400
Lumber products and furniture						29,900	34,400	39,500	51,600	81,500
Paper and allied products						46,400	55,300	65,900	90,300	152,000
Printing and publishing						55,100	65,600	78,200	107,500	180,400
Chemicals and allied products						117,900	140,300	167,100	234,300	481,200
Petroleum refining						(S)	(S)	(S)	(S)	(S)
Primary metals						50,400	53,800	57,400	66,200	87,500
Fabricated metals and ordnance						24,300	29,900	36,800	52,400	93,000
Machinery, excluding electrical						29,400	37,300	47,500	69,400	126,700
Electrical machinery and supplies						6,800	9,400	13,100	22,800	52,900
Motor vehicles and equipment						4,200	5,000	6,000	8,400	14,300
Transportation equip., excl. mtr. vehs.						2,500	2,900	3,300	4,200	6,300
Other manufacturing						169,300	209,700	259,600	374,600	673,400
Trans., comm. and public utilities	92,404	107,206	139,447	145,310	154,495	220,300	262,200	312,000	437,700	780,600
Railroad transportation						33,100	33,000	32,900	32,200	30,600
Trucking and warehousing						69,500	84,500	102,700	147,200	264,700
Other transportation and services						20,000	24,200	29,200	40,800	69,800
Communications						67,000	83,100	103,200	155,900	307,900
Utilities (elec., gas, sanitary)						30,500	36,600	43,800	61,400	107,400
Wholesale and retail trade	159,285	220,486	320,444	332,986	342,871	470,000	546,600	635,600	861,300	1,485,000
Finance, insurance and real estate	51,981	91,594	137,114	143,140	153,670	239,800	294,900	362,600	537,500	1,033,500
Services	83,773	137,222	225,410	241,169	253,617	449,400	575,300	736,700	1,168,300	2,492,600
Lodging places and personal services						34,600	38,100	41,800	50,600	70,800
Business and repair services						86,900	114,200	150,100	248,000	556,300
Amusement and recreation services						9,100	10,800	12,700	17,200	28,400
Private households						19,400	19,900	20,400	21,700	24,900
Professional services						299,100	391,100	511,400	830,600	1,812,000
Government	85,528	173,897	317,479	333,391	350,610	515,100	615,100	734,500	1,043,800	1,915,900
Federal government	30,972	59,199	88,847	83,102	90,771	122,800	145,700	171,000	215,100	426,200
State and local government	49,840	103,061	213,668	235,456	244,871	374,700	449,400	538,900	779,500	1,442,000
Armed forces	4,716	11,637	14,964	14,834	15,666	17,500	19,900	22,300	28,900	47,700

*Employment is for 1960.
a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-138
INDEPENDENT CITY AND COUNTY BREAKDOWN FOR
ECONOMIC AREA 22E - NORFOLK-PORTSMOUTH, VA.

22-1 Newport News-Hampton, Va. SMSA
York, Hampton and Newport News, Virginia

22-2 Norfolk-Portsmouth, Va. SMSA
Chesapeake City, Virginia (Chesapeake, Norfolk and Portsmouth, Virginia)
Virginia Beach, Virginia (Virginia Beach and Princess Anne, Virginia)

Non-SMSA Areas
Gloucester, Virginia
Isle of Wight, Virginia
James City, Virginia
Williamsburg City, Virginia
Mathews, Virginia
Middlesex, Virginia
Nansemond, Virginia
City of Suffolk, Virginia
Southampton, Virginia
Franklin City, Virginia
Surry, Virginia
Bertie, North Carolina
Camden, North Carolina
Chowan, North Carolina
Currituck, North Carolina
Gates, North Carolina
Hertford, North Carolina
Pasquotank, North Carolina
Perquimans, North Carolina

TABLE 3-139
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 22, NORFOLK-PORTSMOUTH, VA., 1950-2020, SERIES E

BEA Economic Area 022 Norfolk—Portsmouth, Va. **1972-E OBERS Projections**

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	838,391	1,111,455	1,218,645	1,234,090	1,241,113	1,224,400	1,274,000	1,325,700	1,386,600	1,553,300
Per capita income (1967 $)	1,802	2,169	2,958	2,972	3,061	4,000	4,600	5,200	7,000	11,900
Per capita income relative (U.S. = 1.00)	.87	.84	.86	.86	.86	.84	.85	.86	.87	.90
Total employment	342,303	404,307		503,558		540,900	562,700	585,400	630,500	698,400
Employment/population ratio				.41		.44	.44	.44	.45	.45
Earnings per worker (1967 $)				6,231		7,700	8,700	9,900	12,700	21,200
Earnings per worker relative (U.S. = 1.00)				.88		.89	.89	.90	.91	.93
					In Thousands of 1967 Dollars					
Total personal income	1,510,977	2,410,582	3,604,914	3,667,102	3,798,483	4,941,700	5,881,600	7,000,200	9,829,300	18,493,100
Total earnings	1,315,290	2,070,921	3,128,273	3,137,527	3,233,935	4,189,400	4,939,600	5,824,100	8,055,000	14,853,100
Agriculture, forestry and fisheries	104,375	84,500	75,375	81,548	67,043	81,400	84,600	87,900	98,600	125,600
Agriculture			72,602	78,212	63,722	77,700	80,800	84,100	94,200	119,900
Forestry and fisheries			2,772	3,336	3,327	3,600	3,700	3,800	4,300	5,600
Mining	1,169	467	263	434	467	(S)	(S)	(S)	(S)	(S)
Metal										
Coal			23	31	27	(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas				11	(D)					
Nonmetallic, except fuels			240	393	(D)	(S)	(S)	(S)	(S)	(S)
Contract construction	54,801	118,020	170,806	192,260	205,545	267,200	310,900	361,700	484,700	838,300
Manufacturing	168,575	347,865	471,379	466,401	484,899	673,800	788,200	922,000	1,234,200	2,056,800
Food and kindred products			51,036	52,798	55,575	59,500	64,500	69,900	82,300	117,000
Textile mill products			8,645	8,866	9,454	14,100	17,000	20,500	27,800	45,000
Apparel and other fabric products			10,487	8,833	7,482	9,200	9,400	9,500	10,800	13,900
Lumber products and furniture			37,005	36,107	35,688	47,200	52,300	58,000	72,200	107,200
Paper and allied products			19,768	21,045	22,665	37,200	46,200	57,400	83,200	151,300
Printing and publishing			19,992	20,890	21,438	31,200	37,600	45,200	63,500	119,500
Chemicals and allied products			26,368	27,393	25,814	42,300	51,600	63,000	91,700	170,300
Petroleum refining			3,619	3,902	3,817	4,500	4,900	5,400	6,500	9,200
Primary metals			4,749	5,004	5,059	7,200	8,100	9,000	10,900	15,300
Fabricated metals and ordnance			9,216	9,641	9,187	15,200	18,800	23,200	33,300	59,600
Machinery, excluding electrical			7,723	8,210	11,219	18,200	22,500	27,800	39,600	70,200
Electrical machinery and supplies			16,190	17,313	27,618	56,600	73,600	95,800	151,300	312,000
Motor vehicles and equipment			21,692	22,241	21,107	28,500	32,600	37,300	49,000	79,200
Transportation equip., excl. mtr. vehs.			210,401	199,149	202,826	256,800	290,600	328,900	407,600	593,000
Other manufacturing			24,488	25,011	25,951	45,100	56,400	70,500	103,900	193,200
Trans., comm. and public utilities	77,338	114,364	145,969	156,105	164,253	204,900	241,300	284,100	391,800	725,200
Railroad transportation			28,493	29,746	30,671	25,900	25,200	24,400	22,600	20,300
Trucking and warehousing			28,271	28,535	29,996	41,200	50,100	61,000	88,100	173,300
Other transportation and services			41,382	45,795	47,218	57,900	66,700	76,900	99,100	158,000
Communications			31,148	33,748	36,734	53,900	67,500	84,500	129,400	274,500
Utilities (elec., gas, sanitary)			16,679	18,281	19,632	25,800	31,000	37,200	52,400	98,900
Wholesale and retail trade	210,354	290,294	397,628	408,161	428,257	543,700	630,400	730,900	989,700	1,731,800
Finance, insurance and real estate	28,238	61,847	89,335	89,693	96,512	143,600	177,400	219,100	326,500	657,300
Services	107,952	196,435	331,035	357,377	379,824	567,800	706,400	878,900	1,334,800	2,845,500
Lodging places and personal services			55,976	60,055	63,324	68,200	73,500	79,100	92,400	130,000
Business and repair services			(D)	(D)	(D)	89,900	116,400	150,700	243,400	562,700
Amusement and recreation services			9,546	(D)	(D)	14,100	16,600	19,500	26,500	46,600
Private households			31,719	31,206	30,852	29,000	29,300	29,500	30,800	36,600
Professional services			(D)	205,650	220,498	366,500	468,800	599,800	941,500	2,069,500
Government	562,486	855,137	1,446,479	1,385,547	1,407,133	1,706,200	1,997,500	2,338,600	3,193,800	5,871,700
Federal government	196,189	335,784	545,300	504,329	553,381	727,700	852,000	997,500	1,359,900	2,532,200
State and local government	54,824	128,167	242,811	256,972	266,696	367,500	455,000	563,300	842,500	1,719,500
Armed forces	311,471	391,188	658,371	624,246	587,060	610,900	689,300	777,700	991,400	1,619,800

*Employment is for 1960.

TABLE 3-140
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 22-1, NEWPORT NEWS-HAMPTON, VA., 1950-2020, SERIES E

SMSA 22-1 Newport News—Hampton, Va.

1972-E OBERS Projections

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	154,805	245,818	291,383	292,442	297,351	301,800	317,100	333,300	352,800	403,700
Per capita income (1967 $)	1,935	2,586	3,265	3,343	3,366	4,300	4,900	5,600	7,500	12,400
Per capita income relative (U.S. = 1.00)	.94	1.00	.95	.96	.95	.92	.92	.92	.92	.94
Total employment	60,891	88,202		121,814		135,900	142,500	149,500	162,600	183,300
Employment/population ratio				.42		.45	.45	.45	.46	.45
					In Thousands of 1967 Dollars					
Total personal income	299,490	635,703	951,511	977,640	1,000,982	1,324,000	1,582,300	1,890,900	2,662,900	5,043,300
Total earnings	262,330	558,426	853,709	867,063	888,569	1,170,500	1,382,400	1,632,600	2,255,200	4,157,000
Agriculture, forestry and fisheries	3,984	2,328	1,794	1,883	1,970	2,200	2,300	2,300	2,600	3,400
Agriculture						1,300	1,300	1,400	1,500	1,900
Forestry and fisheries						800	900	900	1,000	1,400
Mining	25	40	57	79	85	(S)	(S)	(S)	(S)	(S)
Metal										
Coal										
Crude petroleum and natural gas										
Nonmetallic, except fuels						(S)	(S)	(S)	(S)	(S)
Contract construction	12,228	26,541	40,686	41,091	42,400	69,600	82,800	98,500	137,200	252,700
Manufacturing	57,669	185,749	218,099	209,013	223,027	301,900	346,000	396,600	505,200	772,100
Food and kindred products						7,200	8,100	9,000	11,000	16,500
Textile mill products						(S)	(S)	(S)	(S)	(S)
Apparel and other fabric products						1,400	1,400	1,400	1,700	2,200
Lumber products and furniture						3,900	4,400	5,000	6,400	10,100
Paper and allied products						1,900	2,300	2,700	3,700	5,800
Printing and publishing						10,000	12,000	14,500	20,500	38,700
Chemicals and allied products						(S)	(S)	(S)	(S)	(S)
Petroleum refining						4,500	4,900	5,400	6,500	9,200
Primary metals						(S)	(S)	(S)	(S)	(S)
Fabricated metals and ordnance						1,000	1,300	1,600	1,800	2,100
Machinery, excluding electrical						3,800	4,900	6,200	9,200	17,300
Electrical machinery and supplies						14,300	18,100	22,800	34,000	64,100
Motor vehicles and equipment						(S)	(S)	(S)	(S)	(S)
Transportation equip., excl. mtr. vehs.						239,300	271,000	307,000	381,100	555,700
Other manufacturing						12,600	15,400	18,700	26,200	45,300
Trans., comm. and public utilities	13,596	22,723	26,448	28,323	29,238	37,500	44,300	52,300	72,700	136,700
Railroad transportation						7,700	7,600	7,600	7,300	6,900
Trucking and warehousing						4,300	5,200	6,400	9,200	18,100
Other transportation and services						7,700	9,000	10,600	14,100	23,500
Communications						12,100	15,300	19,300	30,000	65,000
Utilities (elec., gas, sanitary)						5,600	6,800	8,300	11,900	23,100
Wholesale and retail trade	36,534	55,168	78,639	81,387	84,600	117,400	140,100	167,300	238,500	453,700
Finance, insurance and real estate	6,066	13,607	20,766	20,339	21,060	34,500	43,600	55,100	85,400	181,300
Services	22,053	46,103	81,475	87,193	90,576	141,300	179,200	227,400	356,500	795,500
Lodging places and personal services						12,800	13,900	15,200	18,100	26,200
Business and repair services						26,200	34,300	44,800	73,600	174,100
Amusement and recreation services						3,200	3,900	4,700	6,600	12,400
Private households						6,400	6,500	6,700	7,100	8,700
Professional services						92,500	120,100	155,900	250,800	574,000
Government	110,175	206,166	385,743	397,755	395,614	465,800	542,800	632,600	856,800	1,561,200
Federal government	48,116	100,540	176,347	167,256	182,177	240,200	280,900	328,400	446,700	829,000
State and local government	8,259	26,690	45,099	45,958	46,255	63,900	79,400	98,700	148,700	306,100
Armed forces	53,800	78,936	164,297	184,541	167,182	161,600	182,100	205,300	261,300	425,900

*Employment is for 1960.

a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-141
DEMOGRAPHIC AND ECONOMIC PROJECTIONS FOR ECONOMIC AREA 22-2,
NORFOLK-VIRGINIA BEACH-PORTSMOUTH, VA., 1950-2020, SERIES E

SMSA 22-2 **Norfolk—Virginia Beach—Portsmouth, Va.** **1972-E OBERS Projections**

Table 1.—Population, Employment, Personal Income, and Earnings by Industry, Historical and Projected, Selected Years, 1950-2020

	1950	1962*	1969	1970	1971	1980	1985	1990	2000	2020
Population, midyear	445,706	606,844	667,188	681,261	683,353	673,500	702,600	732,900	770,400	872,700
Per capita income (1967 $)	2,079	2,272	3,109	3,039	3,156	4,100	4,700	5,300	7,200	12,000
Per capita income relative (U.S.=1.00)	1.01	.88	.91	.87	.89	.87	.87	.87	.88	.91
Total employment	199,271	231,430		289,047		307,900	320,300	333,300	359,500	400,200
Employment/population ratio				.42		.46	.46	.45	.47	.46
					In Thousands of 1967 Dollars					
Total personal income	926,610	1,378,992	2,074,408	2,070,354	2,156,371	2,788,800	3,319,000	3,950,000	5,553,300	10,507,200
Total earnings	809,103	1,202,815	1,831,750	1,790,934	1,852,039	2,385,600	2,810,700	3,311,500	4,581,300	8,481,700
Agriculture, forestry and fisheries	9,359a	9,711a	7,145b	6,246b	6,152b	12,600	12,700	12,800	14,300	18,200
Agriculture						12,400	12,500	12,600	14,200	18,000
Forestry and fisheries						(S)	(S)	(S)	(S)	(S)
Mining	e	e	e	e	e	(S)	(S)	(S)	(S)	(S)
Metal										
Coal						(S)	(S)	(S)	(S)	(S)
Crude petroleum and natural gas										
Nonmetallic, except fuels						(S)	(S)	(S)	(S)	(S)
Contract construction	34,034	79,562	97,657	105,400	113,097	166,100	192,800	223,800	298,500	510,900
Manufacturing	66,594	97,774	139,768	141,594	136,212	190,300	222,800	260,800	353,200	601,700
Food and kindred products						19,500	20,600	21,800	24,500	32,500
Textile mill products						2,400	3,000	3,700	5,200	8,800
Apparel and other fabric products						4,900	5,100	5,200	6,000	8,000
Lumber products and furniture						20,100	22,500	25,200	31,900	48,500
Paper and allied products						1,600	2,200	3,000	5,100	12,300
Printing and publishing						18,700	22,500	27,000	37,800	70,800
Chemicals and allied products						23,000	27,400	32,800	46,000	81,000
Petroleum refining										
Primary metals						5,200	5,700	6,300	7,600	10,500
Fabricated metals and ordnance						13,900	17,200	21,200	30,900	56,200
Machinery, excluding electrical						5,500	6,800	8,300	11,800	20,500
Electrical machinery and supplies						1,500	1,800	2,300	3,400	6,400
Motor vehicles and equipment						28,500	32,600	37,200	48,900	79,000
Transportation equip., excl. mtr. vehs.						16,900	18,900	21,200	25,800	36,500
Other manufacturing						28,000	35,500	45,000	67,800	130,100
Trans., comm. and public utilities	58,003	82,136	105,489	112,427	117,703	144,500	169,000	197,600	268,300	482,700
Railroad transportation						15,600	14,900	14,300	12,900	11,100
Trucking and warehousing						31,500	38,100	46,100	65,800	126,900
Other transportation and services						49,400	56,800	65,400	83,900	132,800
Communications						32,900	40,600	50,200	75,400	155,200
Utilities (elec., gas, sanitary)						15,000	17,900	21,500	30,100	56,500
Wholesale and retail trade	131,646	182,219	250,662	256,372	270,916	332,200	382,400	440,200	588,200	1,004,900
Finance, insurance and real estate	17,530	36,829	58,959	59,937	65,402	94,700	116,100	142,400	209,600	414,600
Services	66,088	115,200	193,776	208,958	222,073	336,000	419,900	524,700	802,100	1,721,600
Lodging places and personal services						29,700	31,200	32,700	36,500	47,900
Business and repair services						56,300	72,500	93,300	149,200	340,000
Amusement and recreation services						9,500	11,100	12,900	17,300	29,900
Private households						14,400	14,500	14,500	15,000	17,600
Professional services						225,800	289,500	371,000	583,900	1,286,100
Government	423,575	598,037	975,976	897,629	917,871	1,108,600	1,293,200	1,508,500	2,046,500	3,726,300
Federal government	142,164	227,692	357,572	325,120	358,847	473,300	555,000	650,800	889,400	1,662,500
State and local government	31,805	66,436	135,474	144,533	151,098	200,500	247,400	305,300	453,900	917,700
Armed forces	249,607	303,910	482,931	427,976	407,926	434,800	490,100	552,400	703,000	1,145,900

*Employment is for 1960.
a—represents 80.0 to 99.9 percent of the true value
b—represents 60.0 to 79.9 percent of the true value
c—represents 40.0 to 59.9 percent of the true value
d—represents 20.0 to 39.9 percent of the true value
e—represents zero to 19.9 percent of the true value

TABLE 3-142
A COMPARISON OF SERIES C AND SERIES E OBERS PROJECTIONS
OF POPULATION AND TOTAL EMPLOYMENT BY ECONOMIC AREA*

ECONOMIC AREA/ PROJECTION TYPE	1980 SERIES C	1980 SERIES E	% Difference	2000 SERIES C	2000 SERIES E	% Difference	2020 SERIES C	2020 SERIES E	% Difference
Economic Area 15 Philadelphia, Pa.-N.J.									
Population	8,334,400	8,025,400	3.7%-	10,517,000	9,188,300	12.6%-	12,983,800	10,215,200	21.3%-
Total Employment	3,359,200	3,523,500	4.9%+	4,295,400	4,191,300	2.4%-	5,347,600	4,582,200	14.3%-
Economic Area 16 Harrisburg, Pa.									
Population	1,976,300	1,906,400	3.5%-	2,551,700	2,224,000	12.8%-	3,296,500	2,458,100	25.4%-
Total Employment	812,500	857,500	5.5%+	1,058,900	1,035,200	2.2%-	1,375,400	1,115,500	18.9%-
Economic Area 17 Baltimore, Md.									
Population	3,107,300	2,822,900	9.2%-	4,033,000	3,234,400	19.8%-	5,009,800	3,578,300	28.6%-
Total Employment	1,261,700	1,252,600	0.7%-	1,626,000	1,482,800	8.8%-	2,021,100	1,609,600	20.4%-
Economic Area 18 Washington, D.C.-Md.-Va.									
Population	3,750,500	3,755,200	0.1%+	5,385,800	5,592,300	3.8%+	7,490,400	7,415,600	1.0%-
Total Employment	1,658,800	1,797,900	8.4%+	2,360,200	2,717,800	15.2%+	3,255,600	3,484,400	7.0%+
Economic Area 21 Richmond, Va.									
Population	1,196,400	1,162,500	2.8%-	1,597,600	1,423,100	10.9%-	2,087,800	1,610,100	22.9%-
Total Employment	487,200	515,600	5.8%+	643,000	653,100	1.6%+	834,400	724,400	13.2%-
Economic Area 22 Norfolk-Portsmouth, VA.									
Population	1,327,900	1,224,400	7.8%-	1,549,200	1,386,600	10.5%-	1,785,700	1,553,300	13.0%-
Total Employment	543,700	540,900	0.5%-	629,600	630,500	0.1%+	723,400	698,400	3.5%-

*All figures rounded off to nearest hundred.

TABLE 3-143
A COMPARISON OF SERIES C AND SERIES E OBERS PROJECTIONS
OF POPULATION AND TOTAL EMPLOYMENT FOR THE ESTUARY AREA*

REGION/PROJECTION TYPE	1980 SERIES C	1980 SERIES E	1980 % Difference	2000 SERIES C	2000 SERIES E	2000 % Difference	2020 SERIES C	2020 SERIES E	2020 % Difference
Estuary Area Portion of Economic Area 15									
Population	612,600	593,900	3.1%-	851,400	744,300	12.6%-	1,115,200	878,500	21.2%-
Total Employment	246,100	257,200	4.5%+	350,300	343,700	1.9%-	465,800	398,700	14.4%-
Estuary Area Portion of Economic Area 17									
Population	2,877,600	2,614,000	9.2%-	3,714,000	2,978,900	19.8%-	4,596,300	3,281,300	28.6%-
Total Employment	1,165,100	1,156,100	0.8%-	1,495,900	1,364,200	8.8%-	1,854,300	1,476,000	20.4%-
Estuary Area Portion of Economic Area 18									
Population	3,695,000	3,698,900	0.1%+	5,314,200	5,519,600	3.9%+	7,397,200	7,326,600	1.0%-
Total Employment	1,634,300	1,770,900	8.4%+	2,328,500	2,682,500	15.2%+	3,214,500	3,439,100	7.0%+
Estuary Area Portion of Economic Area 21									
Population	871,800	847,500	2.8%-	1,180,100	1,051,700	10.9%-	1,555,100	1,199,500	22.9%-
Total Employment	360,200	381,000	5.8%+	477,100	484,600	1.6%+	619,900	538,200	13.2%-
Estuary Area Portion of Economic Area 22									
Population	1,216,100	1,121,600	7.8%-	1,429,700	1,279,800	10.5%-	1,656,400	1,441,500	13.0%-
Total Employment	498,600	496,000	0.5%-	581,200	582,000	0.1%+	670,600	647,400	3.5%-
TOTAL ESTUARY AREA POPULATION	9,273,100	8,875,900	4.3%-	12,489,400	11,574,300	7.3%-	16,320,200	14,127,400	13.4%-
TOTAL EMPLOYMENT	3,904,300	4,061,200	4.0%+	5,233,000	5,457,000	4.3%+	6,825,100	6,499,400	4.8%-

*All figures rounded off to nearest hundred.

Generally, population is projected to increase at a lower rate with the E Series during the period 1980 to 2020. However, as illustrated below, differences in growth rates between Economic Areas exist with both Series C and Series E projections. The generally lower growth rates associated with the E projections are attributed to lower fertility rates as forecast by BEA. Even with lower growth rates, population is expected to increase in each of the six Economic Areas as well as the Estuary Area itself during the projected period.

Series E projections of "total employment" also show an increase but at a lower rate than those of Series C. This can be attributed to a number of factors. First, a smaller military establishment has been assumed in the E Series. As a consequence, a significantly slower rate of growth in the defense-related manufacturing industries is projected. Second, the lower populations projected in the E Series indicates a smaller potential labor force. Oddly enough, increases in total employment are greater in the E projections initially than with the C Series. This is due to lower fertility rates which enable more women to enter the labor force.

Changes in population rates of growth are not necessarily paralleled by changes in total employment. For example, an Economic Area may experience an increase in population of 15 percent between 1980 and 2000, yet its total employment for that period may increase by 19 percent. This can be explained in a number of ways: greater female participation in the labor force and/or fewer hours worked per year per man as anticipated during the projection period.

The E Series projects that approximately 4.0 percent of the U.S. population or 8,875,900 people will be living in the Estuary Area by 1980. This is 4.3 percent less people than forecast by Series C. By the year 2000, the population is projected to increase to 11,574,300; and in 2020, it will have surpassed 14,127,000 people or 4.8 percent of the U.S. population. Thus, the Estuary Area's growth rate will be slightly greater than the National rate. Table 3-143 shows the E population projection for 2020 to be over 13 percent less than the population projected by the C Series.

Total employment for the Estuary Area is forecast to be higher using the E Series through the year 2000. However, by 2020 Series E projects 4.8 percent fewer people employed within the Estuary Area than does the C Series. In 1980, total employment will reach 4,061,200 people as projected by Series E. This will represent 45.9 percent of the total population. By 2020, the number employed will make up 46.0 percent of the

total population within the Study Area. Thus, very little change is expected in the ratio of population to total employment. For the United States as a whole, the percentage of population employed (14 years of age & older) will be 43 percent in 1980 and 43.9 percent in 2020. This represents a ratio lower than that for the Estuary Area.

The percent difference between Series E and Series C increases with each selected projected year--again with the exception of the Washington, D.C.-Maryland-Virginia economic area. In addition, of the five economic areas in which the Estuary Area is included, only the Washington, D.C.-Maryland-Virginia economic area has a higher population growth rate with Series E projections than with Series C. By 2020, however, Series E projects 1.0 percent fewer people than the C Series. This is most likely due to the fact that Washington, D.C., is the center of the Federal Government. As government continues to expand, the region will continue to attract people. All of the other economic areas follow the National trend with lower rates of growth projected by Series E. The greatest differences in population growth rates are found in the Baltimore, Maryland, economic area where there are 28.6 percent fewer people projected in the E Series by 2020.

Comparing the two projection Series in terms of "total employment," a number of economic areas experience greater rates of growth with the E projections than with the C for selected projected years 1980 and 2000. By 2020, however, only the Washington, D.C.-Maryland-Virginia economic area experiences greater total employment with the E Series. As with population rates, this is due to the attraction of the Federal Government as a chief employer in the Region.

CHAPTER VI

SUMMARY

Historically, the land and water resources of the Chesapeake Bay Area have strongly influenced the development and economy of the Region. In colonial times, agriculture, forestry, and fisheries provided food and building materials for a growing Nation. Large amounts of freshwater have been available for both municipal and industrial use, and the Bay and its tributaries have served as valuable waterways for commerce. In addition, recreational resources and the natural beauty offered by the Bay and its sub-estuaries have traditionally offered strong inducement to live in the area.

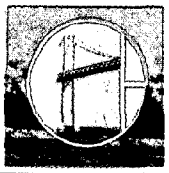
Today, portions of the Chesapeake Bay Region are heavily urbanized. The Region itself forms the southern portion of "megalopolis", a twentieth century phenomena considered by many to be the economic center of the Nation. The population of the Region, which has doubled since 1940, is currently about 8 million. It is expected to double again by 2020 with over 50 percent of this future growth projected to take place in the Washington, D. C. Subregion.

In terms of employment, almost 3.3 million people were employed in the Bay Area in 1970. This is projected to increase to over 6.8 million by 2020. The majority of those presently employed work in the Services, Wholesale, and Retail Trade; Manufacturing; and Public Administration Sectors. Other Sectors such as Mining; Agriculture, Forestry, and Fisheries; Construction; Transportation, Communications, and Utilities; Finance, Insurance, and Real Estate; and the Armed Forces are also important as sources of employment within the Study Area.

Although less than ten percent of the land is used for residential, commercial, and industrial uses, nearly 80 percent of

the people in the Bay Area live in urban areas. The intensive socio-economic development which has characterized the Bay Region has brought with it certain conflicts between man and nature: ever increasing demands by industry for water for processing and cooling; recreational facilities and opportunities lagging behind a booming demand; adverse impacts brought about by expansion of navigational facilities to keep pace with economic expansion; continued pollution and sedimentation of the Region's waterways as a result of construction, industrial effluents, storm runoff, and municipal discharges; and shortage of adequate water supply and waste treatment facilities in some areas.

Based on both past and present trends and the number of inhabitants projected for the Estuary Area, conflicts between man and the Bay can only be expected to intensify while the demands to be placed on the Bay's resources will increase. The projections presented in this appendix will prove useful for other Chesapeake Bay activity studies and in determining where future pressures on land and water resources can be expected. It is hoped that the appendix will serve as important input to a management program which will be used to guide man in utilizing the resources of the Chesapeake Bay Region.



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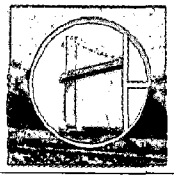

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